Annual Report 2008

Umeå International School of Public Health

Epidemiology and Public Health Sciences

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Cover photo: Mattias Pettersson, Print & Media

Foreword

2008 was a creative year for the Division of Epidemiology and Public Health at Umeå University. Our activities are really diverse and dense in collaborations, but demand a lot of flexibility from our staff.

Research-wise 2008 meant further successes in terms of important scientific publications and several new major research grants, of which SIMSAM (The Swedish Initiative for Research on Micro Data in the Social and Medical Sciences) was a culmination. The SIMSAM application raised more than 28 million to Umeå University, but was also the application which was assessed as sharpest in the national competition.

Education-wise 2008 constituted a major challenge as we for the first time ever taught in the dual MPH-grades. But thanks to excellent efforts from study directors, teachers, students and administrators is has worked out well.

In 2008, five PhD students defended their thesis, while even more PhD students have been accepted for doctoral studies. That our mission is global is also illustrated by the fact that all five PhD dissertations were focusing on global development issues and health conditions in low and middle income countries.

In 2008, the Center for Global Health Research developed further and launched the first edition of the new Open Access journal: Global Health Action (www.globalhealthaction.net). The last year we also developed a Fifth Theme within the Center for Global Health Research focusing on climate change and global health conditions. This theme unites arctic and tropical perspectives on climate change and is, among other collaborators, developed in cooperation with Infectious Diseases researchers at Umeå University.

2008 was the starting year of the Swedish Research School for Global Health in collaboration with Karolinska Institute, Stockholm. At the first announcement the number of applicants exceeded the number of seats.

We are pleased that we in 2008 had the opportunity to work with INDEPTH and in Umeå organize an international workshop to analyze data from the Study on Global Aging and Adult Health (SAGE). We look forward to further collaboration in this field.

The year has meant continuing research collaboration with many partners within the Umeå University - including the Umeå Center for Gender Studies. We have also further developed ongoing collaboration with the Västerbotten County Council, Umeå Municipality and other Municipalities in Västerbotten, to give some examples. The year has also included further extensive education work within the Medical Faculty.

The Annual Report 2008 summarizes the more specific research programs, training programs and research cooperation that has characterized our work in Epidemiology and Public Health Science during the past year.

Lars Weinehall, Head of Division
Urban Janlert, Deputy Head of Division

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PhD events during 2008

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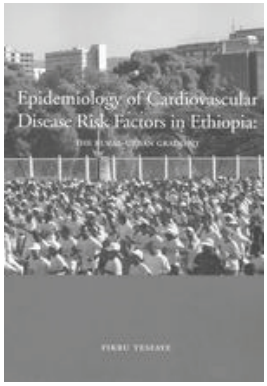
Fikru Tesfaye

Epidemiology of cardiovascular disease risk factors in Ethiopia: The rural-urban gradient

Supervisors: Peter Byass, Yemane Berhane
Thesis defended: 29 February, 2008
Opponent: Professor Rainer Sauerborn, Heidelberg, Germany



Background. Changes in the population structure and the main causes of death result in the growing burden of chronic diseases, which characterize the epidemiological transition. The transition takes place at different paces in different parts of the world. The developed world has taken over a century to complete the transition, and the rapidly developing countries of Asia and Latin America are undergoing a swift transition. In contrast, many sub-Saharan African countries are said to be experiencing a delayed transition. In Ethiopia, routine health care reports are incomplete and erratic. Lack of nationwide data on causes of death clouds understanding of the burden of disease or its composition. Consequently, there is limited knowledge on the course of the epidemiological transition, which has left room for widespread scepticism concerning the importance of chronic diseases in the country. Hence, the health system continues to be heavily reliant on the conventional "infectious disease paradigm", and fails to be responsive to emerging health problems. Assessing the pattern and causes of disease burden enables meeting the health care needs of vulnerable population segments and devising cost-effective interventions that avert the impact of emerging diseases on the health and well-being of the nation. However, in countries without a functional system for registration of vital events, such as births and deaths, complete and reliable data on the burden of chronic diseases will not be available. Data on their risk factors, which are valuable for prevention and control programmes, can be generated through population-based surveillance, and serve as a practical alternative.

Objectives. This research project was implemented in order to illustrate the distribution of risk factors for cardiovascular diseases (CVD), and examine the gradient across urban and rural populations in Ethiopia, thereby contributing to national and global efforts of tracking the course of the epidemiological transition.

Methods. The WHO STEPS instrument was employed in two populations of central Ethiopia, representing a predominantly rural district (Butajira) and the national capital – Addis Ababa. Over 8000 adults in the age group 25-64 years, from the two populations, participated in interview and physical measurements, which were conducted in a standard manner. Ethical clearance for the project was obtained from appropriate national bodies and ethical conduct was maintained throughout the research process.

Results. The findings revealed wide disparities, between urban and rural populations, in the distribution of the main risk factors of CVD. Elevated blood pressure, obesity, and physical inactivity were more concentrated in urban populations, while the rural-urban gap was narrower with the distribution of cigarette smoking and binge drinking of alcohol. The use of substances like khat (Catha edulis Forsk), which may increase the risk of acute myocardial infarction, is expanding from rural areas that grow the plant to urban populations, partly due to improved transportation and market forces. The gap in the distribution of risk factors between the sexes is wider in rural populations and narrows down in urban areas. Thus, men in rural areas have a markedly higher prevalence of hypertension than women, while the level is similar between men and women in urban areas. Urban women carry more risk of CVD due to higher prevalence of physical inactivity, overweigh and obesity. Intake of fruits and vegetables is not consistent with optimal cardiovascular health in both rural and urban populations, but comparatively better in rural areas.

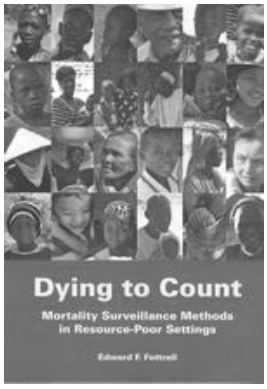
Conclusion and recommendations. The prevalence of high blood pressure in urban Ethiopia is similar to other sub-Saharan African countries, and closely comparable to the situation in the developed world. Owing to the established contribution of high blood pressure to CVD morbidity and

mortality, it (elevated blood pressure) may represent the principal risk factor for CVD in the Ethiopian population, particularly in urban areas. Programmes for the prevention and control of CVD in Ethiopia should give due priority to the prevention of high blood pressure and its precursors, such as physical inactivity, overweight and obesity. Population wide strategies should be implemented to promote healthy dietary behaviour and physical activity, and to prevent smoking and substance use behaviours. Programmes should also aim to improve awareness, detection and appropriate clinical management of high blood pressure among health care providers and the public at large. The stepwise surveillance of chronic disease risk factors (STEPS) should be implemented on a sentinel nationwide basis in Ethiopia, in order to inform policy and guide strategies and programmes for the prevention and control of CVD and other chronic diseases. The national health extension program offers an opportunity to establish a system for registration of birth, death, and similar vital events at a population level, which provides a more reliable foundation for estimating vital indicators and disease burdens.

Edward Fottrell

Dying to count: Mortality surveillance methods in resource-poor settings

Supervisor: Peter Byass
Thesis defended: 29 February, 2008
Opponent: Professor Heiko Becher, Heidelberg, Germany



Background. Mortality data are critical to understanding and monitoring changes in population health status over time. Nevertheless, the majority of people living in the world's poorest countries, where the burden of disease is highest, remain outside any kind of systematic health surveillance. This lack of routine registration of vital events, such as births and deaths, constitutes a major and longstanding constraint on the understanding of patterns of health and disease and the effectiveness of interventions. Localised sentinel demographic and health surveillance strategies are a useful surrogate for more widespread surveillance in such settings, but rigorous, evidence-based methodologies for sample-based surveillance are weak and by no means standardised. This thesis aims to describe, evaluate and refine methodological approaches to mortality measurement in resource-poor settings.

Methods. Through close collaboration with existing community surveillance operations in a range of settings, this work uses existing data from demographic surveillance sites and community-based surveys using various innovative approaches in order to evaluate and refine methodological approaches to mortality measurement and cause-of-death determination. In doing so, this work explores the application of innovative techniques and procedures for mortality surveillance in relation to the differing needs of those who use mortality data, ranging from global health organisations to local health planners.

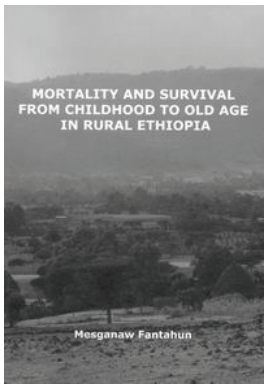
Results. Empirical modelling of sampling procedures in community-based surveys in rural Africa and of random errors in longitudinal data collection sheds light on the effects of various data-capture and quality-control procedures and demonstrates the representativeness and robustness of population surveillance datasets. The development, application and refinement of a probabilistic approach to determining causes of death at the population level in developing countries has shown promise in overcoming the longstanding limitations and issues of standardisation of existing methods. Further adaptation and application of this approach to measure maternal deaths has also been successful. Application of international guidelines on humanitarian crisis detection to mortality surveillance in Ethiopia demonstrates that simple procedures can and, from an ethical perspective, should be applied to sentinel surveillance methods for the prospective detection of important mortality changes in vulnerable populations.

Conclusion. Mortality surveillance in sentinel surveillance systems in resource-poor settings is a valuable and worthwhile task. This work contributes to the understanding of the effects of different methods of surveillance and demonstrates that, ultimately, the choice of methods for collecting data, assuring data quality and determining causes of death depends on the specific needs and requirements of end users. Surveillance systems have the potential to contribute substantially to developing health care systems in resource-poor countries and should not only be considered as research-oriented enterprises.

Mesganaw Fantahun

Mortality and survival from childhood to old age in rural Ethiopia

Supervisors: Peter Byass, Yemane Berhane, Ulf Högberg, Stig Wall
Thesis defended: 14 March 2008
Opponent: Professor Thorkild Tylleskär, Centre for International Health, University of Bergen, Norway



This thesis examines ways of establishing cause of death, assessing trends in mortality, and identifying factors that affect mortality and survival among the different population groups in rural and semi-urban Ethiopia. These data are important for health care planning; however, such vital data are unavailable in many developing countries. The study was conducted in Butajira Rural Health Program Demographic Surveillance Site, Ethiopia, where data collection on vital events and related research has been conducted for the last 20 years. This thesis used a cohort and a case referent study preceded by Focus Group Discussion. It also employed a verbal autopsy procedure to identify causes of death. The cohort component used 18 years of surveillance data (1987-2004). The prospective case referent study, carried out in the years 2003-2005, was used to complement the mortality analysis and focused particularly on issues related to household decision making, social capital, and economic status. The main subgroups included were children under-five years old, adults 15-64, and the elderly 65 years and above. Cause of death was ascertained using the Physicians' Review and InterVA methods.

Food shortage and epidemics affected the modest downward trend of mortality. There was a general similarity between the Physicians' Review and InterVA methods in identifying the major causes of death. About 60% of the deaths were due to pneumonia/sepsis, pulmonary tuberculosis, malaria, and diarrhoea disease/malnutrition. The InterVA method was cheaper and more consistent. Higher rates of HIV/AIDS (11%), tuberculosis (18%), and cardiovascular (9%) mortality were noted in urban areas compared to rural areas. Consistent higher mortality was found in rural areas. Women were disadvantaged by residence and advanced age. Place of residence, illiteracy, widowhood, and not owning a house affected men and women differently, indicating a possible need for gender-specific interventions. Children and women survival is affected by household decision-making; this means efforts to improve women's involvement in household decision-making (women empowerment) might improve child and women survival in poor settings. Many factors that significantly affect mortality can only be controlled by concerted efforts to improve health and overall development.

Kjerstin Dahlblom

Home alone. Sibling caretakers in León, Nicaragua
Supervisors: Rodolfo Peña, Stig Wall
Thesis defended: 24 October, 2008
Opponent: Professor Bengt Höjer, Department of Public Health Sciences, Karolinska Institutet, Stockholm

Sibling caretaking, although common across time and cultures, has not been well researched from the carer's point of view. In Nicaragua, ranked as one of the poorest countries in the Americas, sibling caretaking is common. The country's historical background and its state of chronic poverty, widespread unemployment, loose family structures, and migration and mobility makes of the old practise of shared management child care a necessity. Households headed by sing¬le mothers constitute a particular Nica¬raguan charact¬eristic. Many children are expected to help in their own families and care for their siblings and other children living in their households. In its broadest sense sibling caretaking is a public health concern, and we conducted this study to widen the understanding of the phenomenon as it is represented in a setting undergoing a rapid social transition.

The main objectives were to identify, describe and analyse the life situation of sibling caretakers in poor areas in León, Nicaragua, with focus on how they perceived it themselves. A combined qualitative and quantitative methodological design was used, mainly applying an ethnographic approach. A further ambition was to explore involvement of children in a participatory research process in accordance with the 'Convention on the Rights of the Child'.

The overall emotion expressed among the caretakers was pride, even if their situation often was characterized by stress and coping problems. They perceived their work as important for their families and they appreciated to fend for their siblings. Household work and nurturing of siblings were shaping the future lives of the caretakers and constituted part of their socialization.

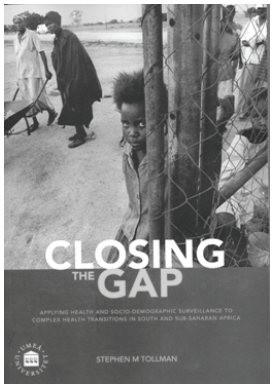
Even if many of these children achieve essential life skills as caretakers, they are at risk of falling behind as they grow older. Their long-term personal development is likely to be hampered by the obligations they have as caretakers. The carers' awareness of missing out on education was the most problematic issue for them.

From a societal point of view, caretaking has negative consequences. The individual child is marginalised with limited access to basic education, contributing to overall low educational levels in Nicaragua.

While the structuring conditions leading to sibling caretaking may be difficult to change, awareness of how these can affect children might make way for improvements in terms of access to school education and support from the society. The knowledge gained from this study should be further utilised to plan for interventions that take children's perspectives into consideration.

Stephen Tollman

Closing the gap: Applying health and socio-demographic surveillance to complex health transitions in South and sub-Saharan Africa
Supervisors: Stig Wall, Michel Garenne
Thesis defended: 26 November, 2008
Opponent: Professor Demissie Habte, Addis Ababa, Ethiopia



Background: The challenge of research in resource-poor settings remains a profound concern and is closely linked to African social development. Work of this thesis spans the end of apartheid and first decade of the democratic era in South Africa, along with emergence of the HIV/AIDS pandemic. It also covers the founding decade of the INDEPTH Network.

Aims: Through appraising health and population research in a rural southern African sub-district over the past decade, to evaluate the utility of health and socio-demographic surveillance in rural African settings for:

• capturing the dynamics of health, population and social transitions

• supporting a mix of research designs, and

• contributing to policy and programme development and evaluation.

To extend this appraisal by examining the multi-site opportunities offered by the INDEPTH Network.

Methods: Work was sited in the Agincourt sub-district, a heavily populated border area of rural north-eastern South Africa. Health and socio-demographic surveillance, introduced in 1992, involved prospective follow-up of the entire sub-district population of 70,000 people (including some 30% Mozambican immigrants) who lived in 11,700 households and 21 villages. Annual census rounds systematically updated household membership and recorded all vital events (births, deaths and migrations) since the previous census. A maternity history was asked of women of reproductive age and a verbal autopsy carried out on all deaths registered. The resulting 'data and research platform' – a core feature of all INDEPTH field sites – provided data for computation of trends in vital events and supported an extensive interdisciplinary project portfolio. The population under surveillance can be disaggregated into cohorts selected by age, sex or other criteria. Analyses are possible at multiple levels (individual, family/household or neighborhood) and can include socioeconomic factors.

Findings: The Agincourt community experienced a serious worsening of mortality among most age-sex groups, rapidly declining fertility to near replacement level, and changing patterns of labour migration. This resulted in major changes in population structure and household composition. The rising burden of chronic disease involved both chronic infectious illness (HIV/AIDS and tuberculosis) and non-communicable disorders (such as stroke and related vascular disease). The burden of illness requiring chronic care increased disproportionately to that needing acute care. Potential contributions of field sites based on health and socio-demographic surveillance to local and national health policy are considerable yet remain underexploited.

Interpretation: Rural South and southern Africa is in the midst of multiple, interrelated transitions with implications for health, social and development sectors. Health and socio-demographic surveillance systems are effective research instruments that can capture the rapidly-changing dynamics of health and social transitions in developing settings. Similarly, they can support a range of observational and intervention study designs including policy evaluations. The INDEPTH Network should boost much-needed comparative research; yet singly, and as a group, many of these sites have yet to fulfil their undoubted potential.

Scholarships 2008/2009

The 2008-2009 Centre Party Global health scholarships for MPH students at UISPH

Tewodros Bizuwork Teferra, Ethiopia
Eyerusalem Dagne, Ethiopia
Yalem Tsegay, Ethiopia
Agegnehu Tesfaye Amdeberhan, Ethiopia
Marwan Mosleh, Palestine

The 2008 Centre Party Global health Research scholarships for PHD students at UISPH

Isabel Goicolea, Ecuador
Hussein Kidanto, Tanzania
Bhoomikumar Jegannathan, Cambodja
Hailemariam Lemma Reda, Ethiopia
Njozing Barnabas Nwarbébé, Cameron
Stephen Maluka, Tanzania
Fyson Kasenga, Malawi
Leonie Dapi Nzefa, Cameron
Ari Probandari, Indonesia
Elli Nur Hayati, Indonesia
Fatwa Sari Tetra Dewi, Indonesia

The Västerbotten County Council Scholarship for PhD studies

Alireza Khatami, Iran

1. Institutional setting

Organisation

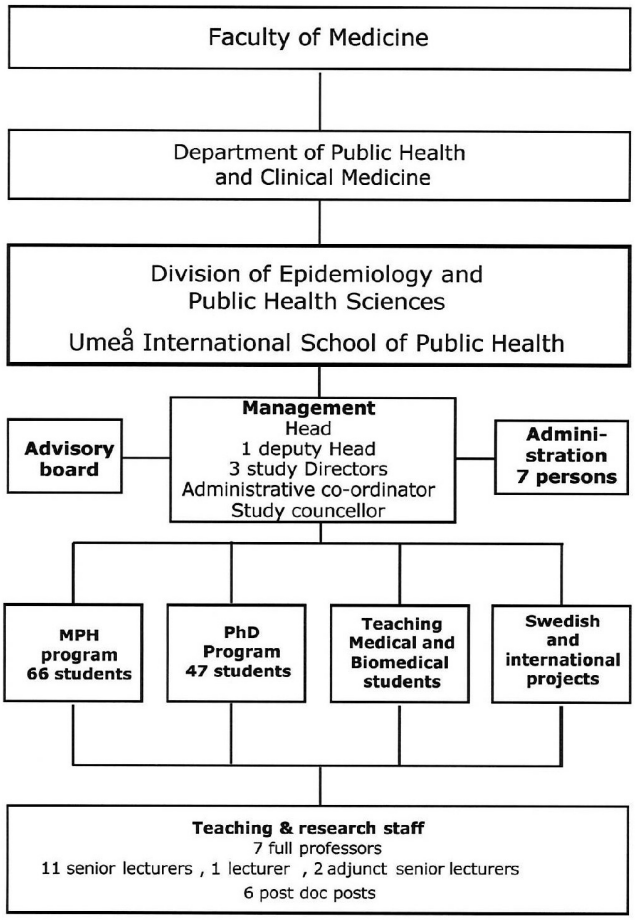


Figure 1. Organisational chart of division within department and faculty

Our division is one of six subunits within the Department of Public Health and Clinical Medicine. Subsequently all formal decisions concerning the Division are taken by the Board of the Department. The advisory board of supervisors serves to address policy and research training issues in our division, and more specifically to assess candidates for PhD training. Staff affairs are handled by the management of the division.

Some of our faculty are full time employees, others attached on a part time basis. Most of the latter group are former PhD students continuing their research and contributing as teachers and supervisors.

The informal structure in our division is represented by different groups with specific objectives. There is a group responsible for handling computer issues for employees as well as students and a group with special responsibility for the distribution of office space among employees. Furthermore a specific group is responsible for planning and organising a summer course entitled Epidemiology and Field Research Methods. Most issues within the Division are also discussed in a bi-weekly staff meeting.

Staff development

At present 55 research and administrative posts are attached to our division, however, not including all international and doctoral students employed or associated with other departments. Of these, 35 are women (66%). Of the 7 professors none is female. Of 20 Swedish PhD students currently registered, 13 are women and among 26 international PhD students, 11 are women. Six out of 7 administrators are women.

Of the 55 students who have completed their PhD during 1987-2008, 25 were women. Twenty-eight of these were Swedes, 15 of which were women.

The sex distribution among all the staff members is illustrated in Figure 2 below, showing a female/male ratio of 66:34 with women in majority. However, it is a sex imbalance in certain groups, with a minority of women among professors and teachers/researchers whereas it is quite the contrary among administrators where most employees are women.

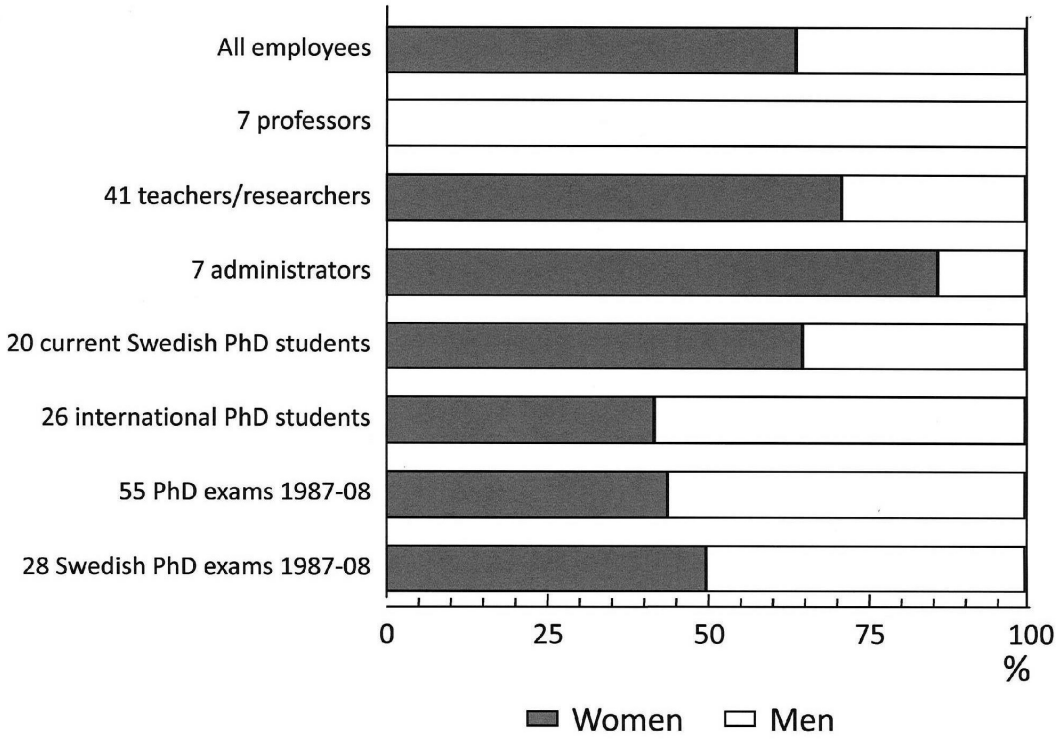


Figure 2. The sex distribution among all 55 staff members employed at or associated with our academic environment by subcategory in 2008.

In all, 52 doctoral students are registered (2008) within our research programme or receive major tutorial with us. They represent a mix of physicians, sociologists, economists, social workers, dentists, environmentalists, physiotherapists and nutritionists. The post-doc personnel represent many disciplines such as environmental, paediatric, reproductive, nutritional and oral health but also medical sociology, statistics and health economics. In terms of person-months of work at the division we have reached a "steady state" corresponding to about 40 full-time staff; 18%, 37% and 45% accounted for by administrative, pre-doc and post-doc staff respectively (Figure 3).

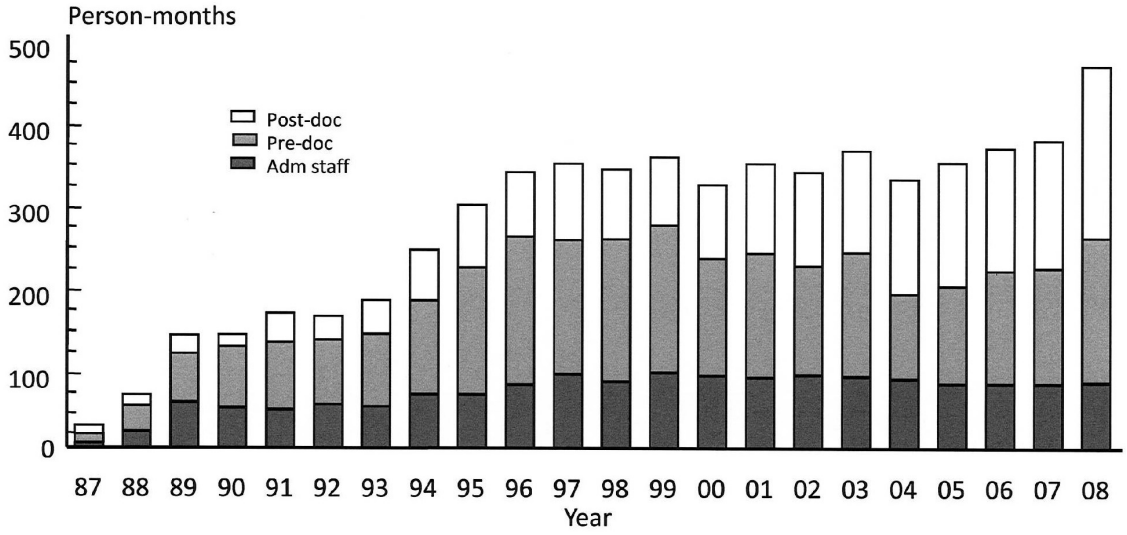


Figure 3. Development of person-months at work by staff category 1987-2008.

Budget

The total budget (Figure 4) for the year 2008 amounted to SEK 41 million, 72 % of which consisted of external Swedish research grants or grants for bilateral development research projects (Figure 5).

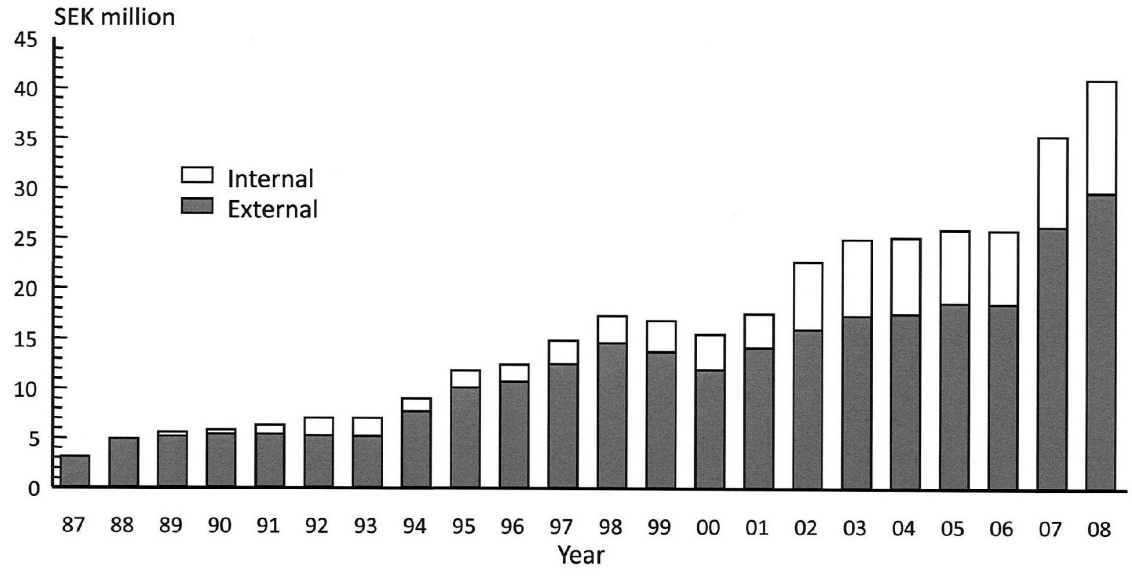


Figure 4. Development of total budget 1987-2008.

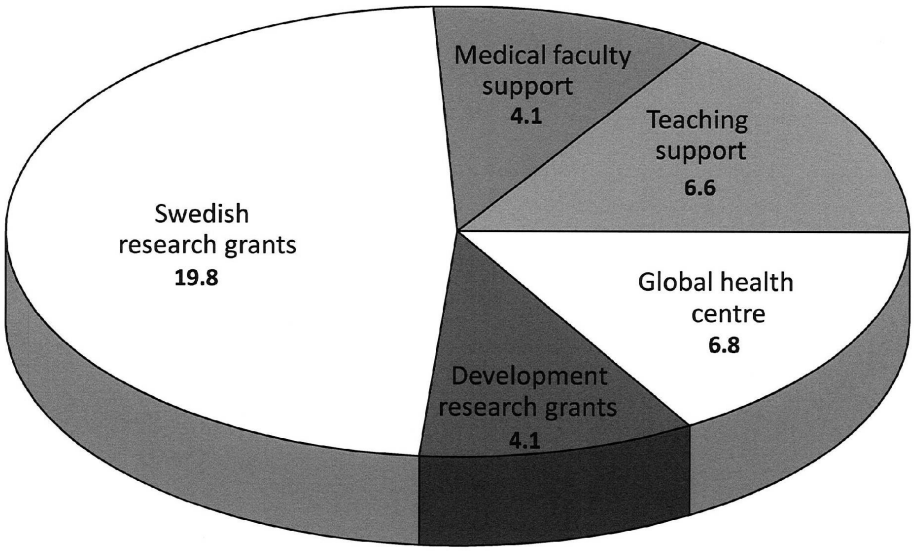


Figure 5. Financial sources for the fiscal year 2008 (in SEK millions).

During the past 10 years, we have seen an increase in core support from the faculty from the 1.5 million SEK in 1994 to the present 4.1 million. The teaching support, and the associated responsibilities, have increased from 0.6 to the present 6.6 million SEK. The latter is mainly a consequence of the expansion of the public health teaching to the complete international MPH programme and our increasing involvement in the medical undergraduate programme. The balance between Swedish and development research is presented in Figure 5. We receive long-term programme support from the FHI, National Public Health Institute and FAS, the Swedish Council for Working Life and Social Research. Other funds are supplied through project grants from Sida/SAREC, FAS, EU and the Vårdal Foundation. The project grants are further specified in Table 1.

Teaching support from the university has been granted for our Public Health programme. 11 PdD students and 5 MPH students were 2008 awarded scholarships from the Swedish Centre Party donation. For the seventh year scholarships were offered by the County Council (Table 2).

The output side of the budget is shown in Figure 6 by type of expenditure. Thus, 59% is accounted for by salaries and 8% by the operating budget. It should be noted that the overhead support to the university administration was SEK 2.9 million during 2008.

Progress

There are no objective measures to assess the progress of an activity. However, an ultimate and measurable outcome criterion is the number of publications (Figure 7). The ups and downs of the curve are a proxy for and a result of the process where research ideas, their gestational period, project planning, data collection and analysis ultimately, after fairly long induction periods, result in a measurable outcome such as a published paper.

As part of the budget model adopted by the Medical Faculty since 1996, three parameters are used to assess each of its departments: number of publications; number of research theses; and number of external grants awarded. Each department is given a budget, based partly on this assessment system.

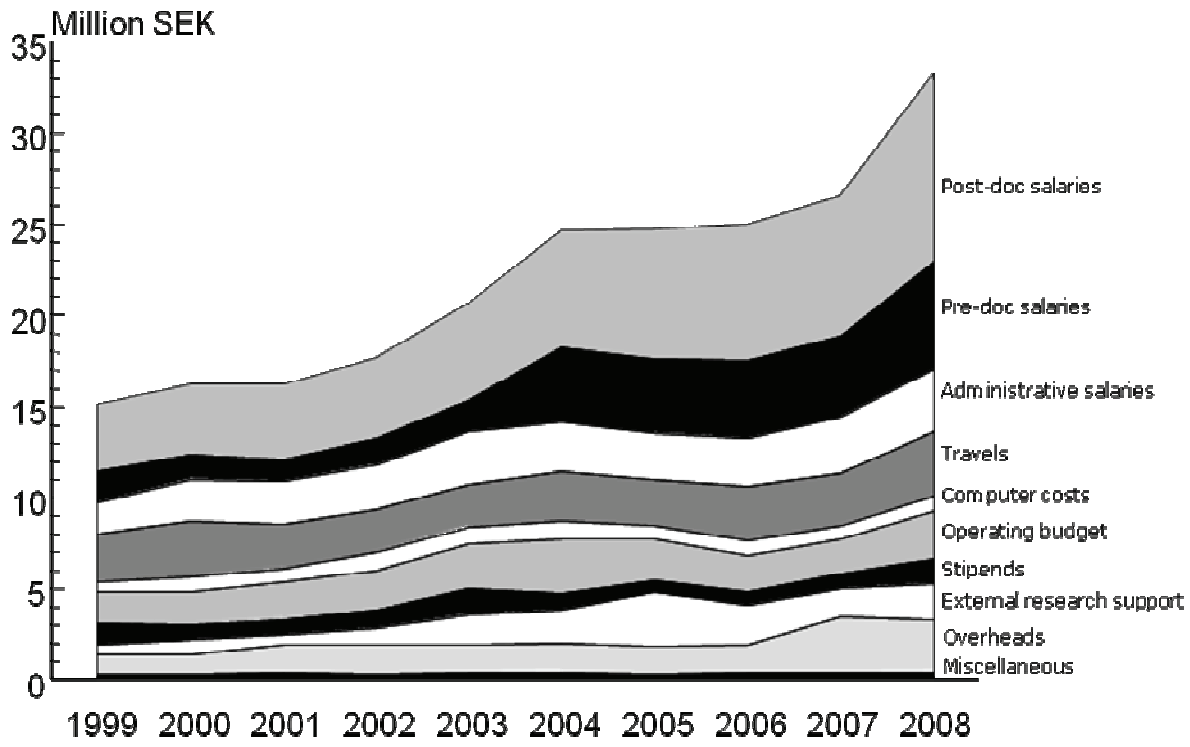


Figure 6. Budget development 1999-2007.

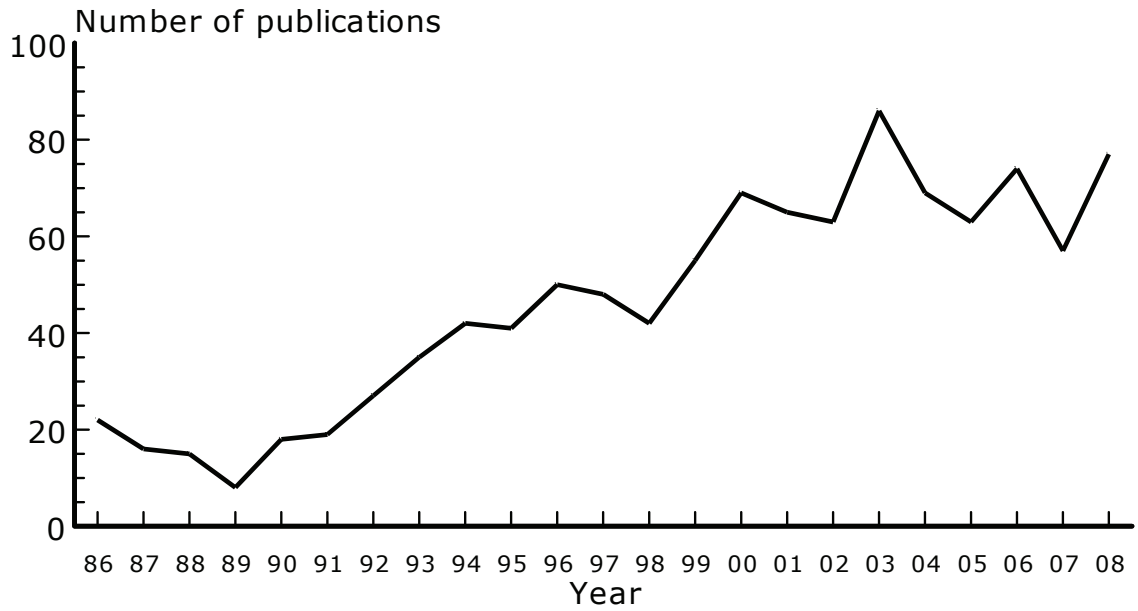


Figure 7. International publications in peer reviewed journals from our unit 1986-2008.

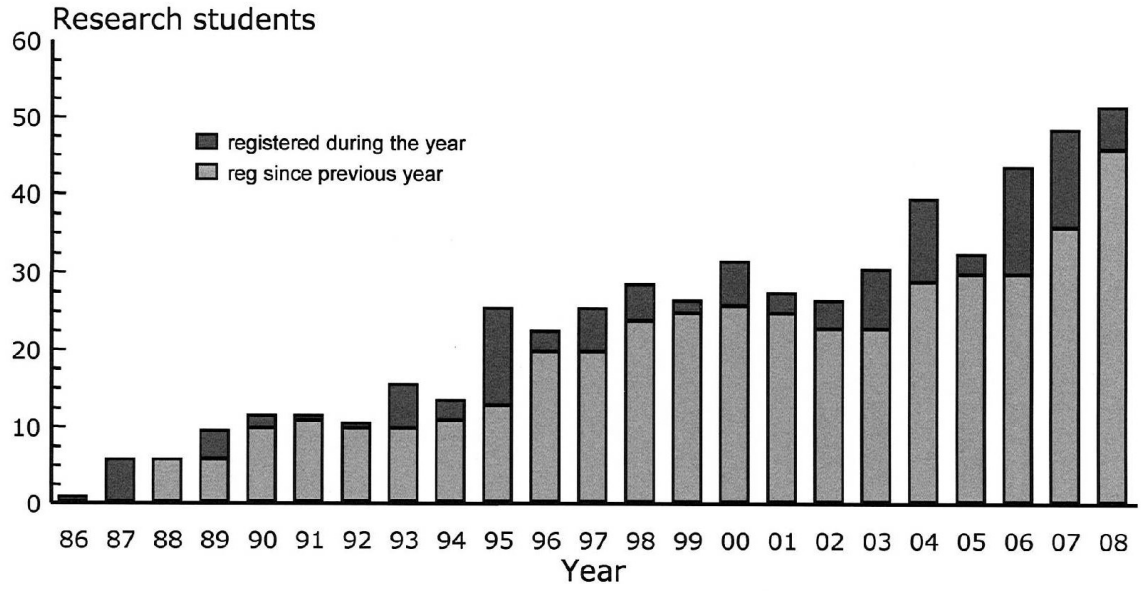


Figure 8. Research students at the division 1986-2008.

Figure 8 shows the number of research students over time, one of the parameters for the budget model assessment system. During 2008, 52 pre-doc personnel were associated with our department, 6 of which were registered during the year. A total of SEK 30 million is thus channelled to the departments as a bonus; we acquire 6.2 percent of this, ranking us number 2 of the 52 divisions of the medical faculty. Figure 9 shows the number of doctoral dissertations over the 19 years that we have existed as an independent research environment.

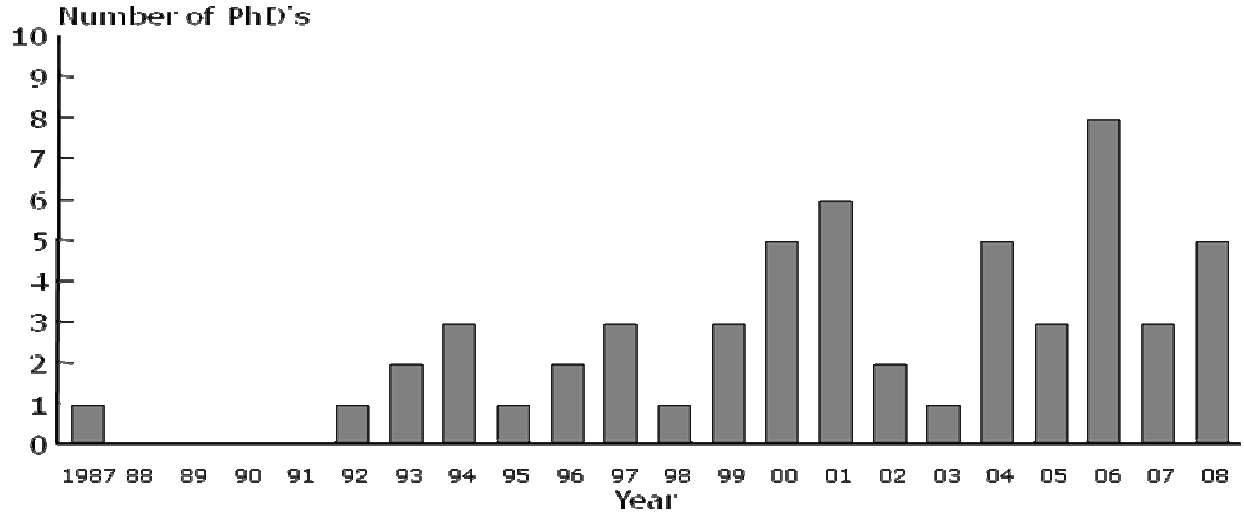


Figure 9. Doctoral dissertations 1987-2008.

Table 1. Project grants for 2008.

Funding/source	Title of project/programme	SEK
The Swedish Council for Working Life and Social Research	FAS-Centre for Global health Research	5 500 000
	Celiac disease. Has time come for primary prevention	800 000
	Preventing weight gain – a suggested shift in public health strategy	1 000 000
	Is powerlessness a risk factor for poorer health among girls?	650 000
FORMAS	Celiac disease: Has time come for primary prevention	1 506 000
The Swedish Research Council	Does group interventions increase wellbeing and decrease stress among teenage girls with chronic pain?	350 000
	Celiac disease: Has time come for primary prevention?	500 000
	Can the benefit of treatment for high blood pressure achieved in randomised studies also be achieved in clinical praxis?	250 000
	National Research School in Global Health	2 300 000
	Microdata research on childhood for lifelong health and welfare	2 880 000
	How gender equality in parenting affects the health and welfare among mothers, fathers and children	1 374 000
Sida/SAREC	Butajira health in transition study, Ethiopia	390 000
	Coordination and administration of research projects in cooperation with UNAN-Leon	175 000
	Reproductive and child health – Nicaragua	439 330
	TANSWED HIV programme in Tanzania	369 600
	Health Systems research, Vietnam	371 868
	Reproductive health in Tanzania	277 000
	Violence against women – Tanzania	250 050
	Child Caretaking of siblings in Nicaragua: a public health approach	300 000
	Research and research training in Laos	94 880
EU	PreventCD	1 644 363
	REACT	744 55
	Mammography	208 791
	CDEUSSA	64 110
WHO	Further analyses of mortality survey data in Tigray, Ethiopia	84 000
AFA	Preventing weight gain – a suggested shift in public health strategy	1 220 990
Swedish Centre Party	Support for research co-operation between Epidemiology and Public Health Sciences and research departments in low and middle income countries	1 000 000
The Vårdal Foundation	Is mass screening for celiac disease a wise use of resources?	200 000
Vinnvård	Towards sustainable organizational learning and innovation in health service	1 400 000
Västerbotten County Council	Senior lecturer in health economics	183 600
	Senior lecturer in epidemiology	752 400
	Senior lecturer in health care	390 000
	A more healh promoting health service (PhD stipends)	1 144 800
	Västerbotten Intervention Program - Database management	244 920
	Salut	98 000
National Public Health Institute	Co-operation between National Public Health Institute and Epidemiology	1 125 600
The National Board of Health and Welfare	National Guidelines regarding Individual counseling on Living habits (tobacco, physical activity, alcohol and diet)	50 000
	Public health report 2008	91 000
Miscellaneous		2 398 674
		32 153 431

Table 2. Post graduate and research training support and stipends for 2008/2009.

Funding source	**Title of programme**	**SEK**
Medical faculty	Master of Public Health Programme: - Public health, 10 points - Epidemiology, 10 points - Biostatistics, 10 points - Medical sociology, 10 points - Qualitative methods, 10 points - Evaluation methods in community intervention, 5 points - Nutritional epidemiology, 5 points - Hälsoekonomisk utvärdering, 5 poäng (in Swedish) - MPH thesis, 20 points	2 935 000
	Basic support	200 000
	International summer course in Epidemiology and field research methods	136 000
	Research methodology, 5 points and Advanced biostatistics, 5 points	240 000
	Biomedicinsk grundutbildning, 5 poäng (in Swedish)	177 000
	Medical school	1 533 000
Sida	Minor Field Studies (MFS)	90 000
Global Health Research School		1 150 000
County council	Scholarships for PhD studies	120 000
Total		**6 581 000**

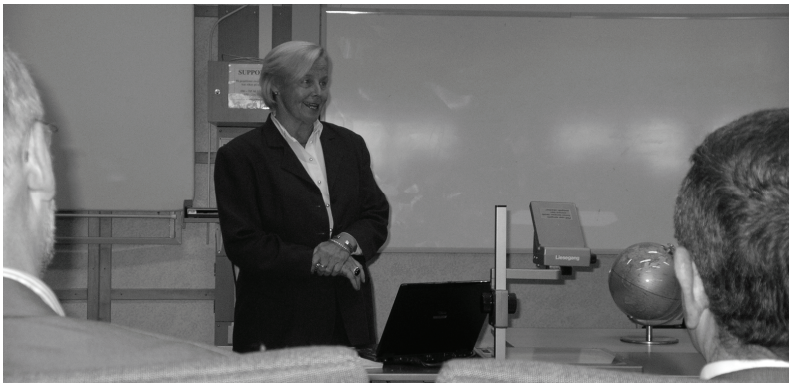
Special events during 2008

Staff day at Baggböle herrgård

Launching of Co-Action, the open access journal

Open house for students and staff

Inauguration of the Global School of Public Health



Staff

Lars Weinehall. MD, Professor in epidemiology & family medicine and head of the unit. Research on the role of Primary Health Care in prevention and on health promotion policy research. Also attached to the Research and Developmental Unit of the County Council and to the National Public Health Institute.

Urban Janlert. MD, Professor of Public Health, specialist in Social Medicine. Deputy Head of Division. Research in social epidemiology (unemployment, social deprivation). Also at the Department of Community Medicine at the County Council.

Anna-Lena Johansson. Administrative coordinator. Responsible for departmental and staff administration and budgeting. Coordinating financial reports within the department. Also involved in the collaborative studies in Vietnam.

Joanna Adcock. Part-time communications officer for the Centre for Global Health. Also attached to the Overseas Development Institute, London.

Erik Bergström. MD, PhD. Specialist in Paediatrics and School Health. Associate professor of epidemiology and public health. Head of the Dept of Child and Adolescent Medicine in Västerbotten County. Research on child and adolescent health. Also attached to the Department of Clinical Sciences, Paediatrics.

Lena Björklund Olofsson. BSc. Research interests in young people's well-being. Evaluating the MPH programme at the International School of Public Health. Working as part of the LEVA collaboration project together with the municipality of Umeå to investigate the health of school children and teenagers.

Yulia Blomstedt. PhD. Post-doctoral fellow. Research on self-reported health. Also involved in the project "Ageing and Living Conditions".

Håkan Brodin. PhD in health economics. Adjunct lecturer. Also affiliated to the Swedish Institute of Public Health.

Peter Byass. Professor of Global Health. Works extensively on health in Southern countries, particularly on issues of measuring health and disease. This involves close collaboration with the Indepth Network and many of its population surveillance site members. Has a leading role in the Centre for Global Health Research and is Deputy Editor of Global Health Action.

Kjerstin Dahlblom. MPH, PhD. Thesis project on sibling caretakers in León, Nicaragua. Research fields of interest: children's rights, children's participation in research, qualitative methods.

Lars Dahlgren. Professor of medical sociology. Research on social planning, HIV/AIDS in Tanzania and on social norm systems. Special interest in developing qualitative research methods and sociological aspects on emotions. Also attached to the Department of Sociology.

Léonie Dapi Nzefa. MPH, Doctoral studies on adolescents' nutritional status in Cameroon, co-supervisor of medical students going to Cameroon.

Kerstin Edin. RN midwife, MPH PhD, research associate. Main research interest on the topic of intimate partner violence with special focus on gender, sexuality and on the period of pregnancy. Also attached to the Umeå Centre for Gender Studies.

Berit Edvardsson. MD, General Practitioner. Doctoral studies on patients with symptoms related to indoor environmental factors. Also attached to Department of Family Medicine.

Kristina Edvardsson. Registered nurse, Master in Nursing. Doctoral studies on children´s health within the Västerbotten County Council Salut programme.

Anders Emmelin. Lecturer, epidemiology. Doctoral studies in air pollution epidemiology. Co-ordinator of research collaboration with the Community Health Department, Addis Ababa University in the Butajira Rural Health Project. Epidemiology teacher and director of the Master of Public Health Programme.

Maria Emmelin. Associate professor in epidemiology and public health with special reference to qualitative methodology and medical sociology. Studies on self-rated health in public health evaluation, HIV/AIDS research and reproductive health. Involved in research collaborations with Tanzania, Ethiopia, Indonesia and South Africa.

Malin Eriksson. Social worker, Master of Social Science. Doctoral studies on "Social capital and health promotion – prerequisites, barriers and prospects".

Eva Eurenius. PhD, project assistant within Salut child health intervention programme, Västerbotten County Council. Studies within Salut focus on the pregnant woman's and her partner's health and life habits with follow-ups of the infants' and parents' ditto after childbirth.

Edward Fottrell. BSc MPH PhD. Post-doc research fellow. Research interests in demographic and health surveillance in developing countries, with a particular focus on methodological issues in measuring mortality and deriving causes of death through verbal autopsy, global health transitions, and the issues of health measurement particular to maternal and neonatal health. Involved in teaching and supervision in the Epidemiology profile on the MPH programme.

Anna-Karin Hurtig. MD, PhD DTM&H, MSc. Associate professor in public health. Research areas: Infectious disease policy, environmental epidemiology and health impacts of globalisation processes.

Ulf Högberg. Professor, gynaecologist/obstetrician. Research on obstetrical epidemiology, maternal and reproductive mortality and domestic violence in Sweden and Ethiopia. Also attached to the Department of Obstetrics and Gynaecology.

Elisabet Höög. MA in work- and organizational psychology. Assistant in an interdisciplinary research group working with the project "Towards Sustained Organizational Learning and Innovation in Healthcare" – a Vinnvård project following Memeologen and its strategies for creating organizational improvement in Västerbotten County Council.

Anneli Ivarsson. MD, PhD in paediatrics, Associate professor, Lecturer in epidemiology and public health sciences. Responsible for the prospective nationwide incidence register for coeliac disease in children, and extensive research on this disease. Also increasingly involved in child health issues in Sweden and internationally. Attached to the Research and Developmental Unit of the Västerbotten County Council.

Helene Johansson. Physio-therapist. Doctoral studies on "A more health promoting health care service from the perspective of health professionals"

Karin Johansson. Faculty officer for the Master of Public Health programme, Umeå International School of Public Health. Budget administration.

Lars Lindholm. Professor in Health economics. Studies on equity in health economic evaluation and the use of epidemiological data in the distribution of health care resources.

Marie Lindkvist. PhD in Statistics, Senior Lecturer in statistics, Statistical consultant.

Kristina Lindvall. Dietitian, master in Food and Nutrition, doctoral student. Involved in a research project studying attitudes, norms, behaviours, strategies and eating habits important for weight maintenance.

Curt Löfgren. Senior lecturer in Economics. Study director of the Master of Public Health Programme. Doctoral studies in health financing, particularly the role of people's preferences when introducing health insurance in third world countries.

Göran Lönnberg. Statistician, research assistant. Involved in the projects: "Västerbotten Intervention Program" (VIP), "Sweden Stroke Prevention Study" (SSPS), "The Diabetes Incidence Study in Sweden (DISS)", the Celiac disease National Swedish Register and the Butajira Rural Health Project, Ethiopia.

Lena Mustonen. Responsible for the web site, UISPH newsletter and Annual Report. Also working with course administration (MPH programme and summer course) and administrates the childhood diabetes register.

Anna Myléus. Medical intern, doctoral studies on the Swedish epidemic of celiac disease in children, with focus on aetiology and clinical expression.

Nawi Ng. MD, MPH, PhD. Senior lecturer in Epidemiology. Involved and conducted study on adult health, ageing, and the epidemiology of chronic diseases and their risk factors in low and middle-income countries within the INDEPTH Network (www.indepth-network.org) . Member of the Oxford Health Alliance (www.oxha.org), an alliance aims at preventing and reducing the global impact of chronic disease. Participate in the Project Quit Tobacco Indonesia aiming at developing smoking cessation intervention in Indonesia and India under the Fogarty International Centre of the US National Institutes of Health.

Maria Nilsson. PhD. Studies on tobacco prevention and policy. Attached to the 5th theme "Climate change and global health" within the Umeå Centre for Global Health Research. Also attached to the Unit of research, education, development and public health at Västerbotten County Council.

Faustine Nkulu Kalengayi. MD, MPH. Doctoral student attached to the center for global health research. Research studies on the challenges and opportunities for HIV/AIDS/TB care and prevention among immigrants from countries in sub-Saharan Africa.

Margareta Norberg. MD, PhD. General Practitioner. Studies on early risk markers for the development of type 2 diabetes mellitus and the metabolic syndrome. Participating in the interdisciplinary research programme Ageing and Living Conditions. Also attached to the Research and Developmental Unit of the County Council and to the National Public Health Institute.

Fredrik Norström. PhLic. in Mathematical Statistics. Statistical consultant in epidemiological and medical research projects and lecturer in Biostatistics. Doctoral studies in " Is mass screening for celiac disease a wise use of resources?", where a celiac disease screening is evaluated, mainly with health economical tools.

Katrina Nordyke. Doctoral student.

Lennarth Nyström. Associate professor in epidemiology, Senior lecturer in biostatistics. Research is focused on the evaluation of the efficacy and effectiveness of mammography screening in Sweden and cost-effectiveness of treatment of hypertension in Västerbotten. Other research includes epidemiological studies of asthma, diabetes, epilepsy and multiple sclerosis. Also involved in studies of reproductive health (including HIV) in Zimbabwe and Tanzania and environmental tobacco smoking in Indonesia.

Jerzy Pilch. Project administrative assistant. Involved in project on diabetes epidemiology. Responsible for computer network and maintenance at the department.

Anna Rosén. MD, PhD student, Minor Field Study handling officer. Doctoral studies on "The complexity of screening-detected celiac disease" utilizing a combination of qualitative, epidemiological and genetic research methods. Also attached to the department of Medical and Clinical genetics.

Klas-Göran Sahlén. R.N, MPH. Doctoral student. Doctoral studies in the area of aging, prevention and health economics. Lecturer in two subjects; health economics, and qualitative methods.

Miguel San Sebastian. MD, PhD. Associate professor, Senior lecturer in public health. Research areas: Environmental epidemiology, indigenous health (Amazon region), primary

health care and health impacts of globalisation processes.

Barbro Skog. Course administrator within the undergraduate medicine programme. Responsible for the department's journal subscriptions.

Berndt Stenberg. Associate professor, occupational dermatologist. Research on skin symptoms related to indoor environmental factors in office work, nickel allergy and on psoriasis. Also attached to the Unit of Dermatology.

Hans Stenlund. Associate professor in biostatistics. Statistical consultant in several epidemiological and medical research projects. Giving courses in biostatistics on various levels. Chairman of the Program Council for Master in Public Health.

Ann Sörlin. Physiotherapist, master *in sports medicine. Doctoral studies on* "gender equality and health". Study counsellor at the International School of Public Health.

Stig Wall. Professor of epidemiology and health care research and Director, Centre for Global Health Research. Chief Editor, Global Health Action. Epidemiologist with a social science background. Research on epidemiology and international health, environmental and social epidemiology, prevention and medical technology assessment.

Susanne Walther. Working with budget and departmental administration. Also involved in the project on celiac disease, and research cooperation projects with Ethiopia.

Maria Wiklund. Physiotherapist. Doctoral studies on health promotion and aspects on prevention of psychosomatic and stress related problems in adolescents, gender perspective. Also attached to department of physiotherapy.

Birgitta Åström. Administrative coordinator for the Swedish Research School for Global HSealth and for the support for doctoral students, students at post doc level and guest researchers at the Center for Global Health Research. Administrator for postgraduate education and scholarships. Also involved in the collaborative work with Indonesia. Representative for the working environment at the department.

Ann Öhman. Associate professor in public health is steering theme IV in the centre for global health research. She is also director of Umeå Centre for gender Studies. Her main research focus is on public health and gender.

2. On-going Swedish and international studies

Our research activities are characterised by group work across disciplines and cultures. Epidemiological reasoning and methodology are central for disease surveillance, in the search for risk factors as well as in the planning and evaluation of intervention programmes. Studies could therefore be grouped under the three main problem areas – aetiological, social and evaluative research –, even though many projects cover more than one area.

Aetiological studies

often start from a specific disease or a suspected exposure. They focus on the relation of disease occurrence to social conditions and exposures and to environmental and lifestyle related agents. In Sweden, population-based registries of mortality and diseases enable analysis of changing patterns of mortality by geographical and social groups and also enable the surveillance of various risk environments. Such health information systems are badly needed in developing countries. They may serve as guidelines for primary health care activities and could also enable the assessment of disease trends and predict disease outbreaks. Umeå Centre for Global Health Research is actively involved in the process of supporting collaborating partners within the INDEPTH network to utilize INDEPTH surveillance data in cross site analysis.

A proper understanding of the aetiology of diseases and the natural history of disease processes – and of health – is essential for designing preventive programmes in public health. National and international studies reflect a wide range of research interests. Several of the studies specifically address the methodological problems of exposure assessment.

Social epidemiology

is directed to the social patterning of health and disease. The aim of ***social epidemiology*** is to characterise, quantify and analyse social stratification of health and health care, focusing on the maldistribution and social inequity in health. In Sweden, distributional policy issues within the health care sector are increasingly being addressed. The recognition of the key role of community participation for public health promotion is a lesson learnt from Third World experiences. Social epidemiology is also concerned with the social consequences of disease and prevention. Both quantitative and qualitative methods are used in data collection and in the analyses of social, cultural and gender differences in health.

Unfair distribution of health and the prerequisites for health between different strata are of central concern for social epidemiology. From this perspective a number of problem areas that have a special bearing on social epidemiology may be identified. Some may also respond to the international health policy research agenda being developed to meet emerging health problems and the ongoing epidemiological transition.

Evaluative research

An area where Swedish and development research share experiences is ***evaluative research***. Evaluations are a basis for health planning and management. Epidemiological methods are essential in evaluations of preventive measures, such as community interventions and individual preventions within the health sector, as well as when assessing medical technologies and practices. Evaluations of health care measures aim to learn more about the efficacy, cost and ethics of the specific measures, adjusting health programmes accordingly and improving the implementation of public health interventions. In a Third World situation in particular, planning for health must be based on population knowledge, including information regarding the non-users of health services. Some applications are especially relevant. These relate to mother and child health, nutrition and infectious diseases, and the evaluation of primary health care.

Crossing boundaries

Most of the projects at our unit are a part of international or national collaborations and are crossing, not only the boundaries of the three research areas of aetiological, social and evaluative research (as previously described), but also other boundaries. The research projects are often multidisciplinary and originated within different occupational areas, research paradigms, cultures and contexts. Accordingly, it is not easy to put one label on each of the numerous ongoing research projects at our unit, since most of them could have many.

Some good examples of projects with different partners and covering many topics of research are the unit's longest lasting bi-lateral research collaboration with Butajira in Ethiopia (since 1986) and also the Västerbottens Intervention Program (VIP), which originated from our county council of Västerbotten.

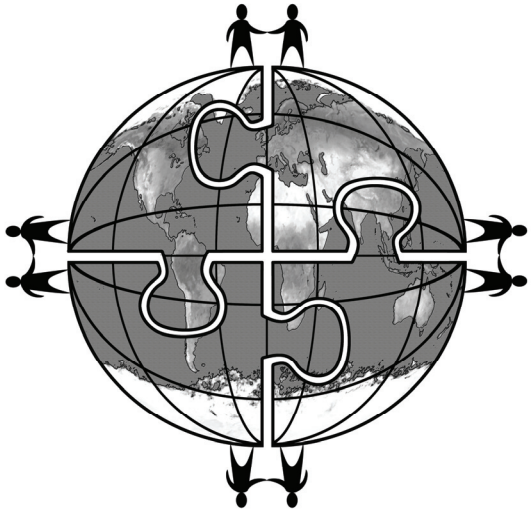
Health economics is another example of crossing boundaries since it is often included as a miscellaneous research area. Health economic research follows two main lines – the normative base for economic evaluation and the integration of epidemiological and economic data as a basis for decision-making.

Yet another example is the combination of different quantitative and qualitative methods, often referred to as 'methodology triangulation' and often used in the unit's different ongoing research projects in Sweden and abroad. Longitudinal population-based and in-depth studies can in this way complement each other and hence enrich the final study outcome.

Umeå Centre for Global Health Research – working together globally to meet health challenges

Global health is a field at the intersection of several disciplines – demography, public health sciences, epidemiology, medicine, economics, statistics and sociology – and builds on the awareness that health is a basic human right and a global public good. It is determined by factors beyond national boundaries, such as international trade, climate change, pollution and poverty, and therefore relies on a complex balance of national and global approaches to identify and implement health solutions. The Umeå Centre for Global Health Research (CGH) is a Centre of Excellence within Umeå University, which operates within the Division of Epidemiology and Public Health Sciences. CGH was set up in 2007 through a grant from FAS, the Swedish Council for Working Life and Social Research (grant no. 2006-1512), supported by co-funding from the University.

The Centre's overall mission is to engage with and address a global agenda on health research and practice, and facilitate collaboration between and within the North and South. The original proposal outlined two major divisions of research – theoretical and methodological developments for the practice of public health, and health systems facing new health threats – that comprised of eight sub-themes. Due to commonality of interests and individuals between these sub-themes, as well as some new thinking, much of 2008 has been spent consolidating the original long-term research plans into five key research themes:



Theme I: The epidemiological transition – by contrasting disadvantaged communities in low-income countries such as Ethiopia, Vietnam, Indonesia and South Africa to the well-developed setting of northern Sweden, research aims to further understand and contribute methodologically to theories of epidemiological transition. Work within this

theme continues to strengthen the Division's links with INDEPTH (www.indepth-network.org) to measure risk factors, health and morbidity and mortality in the network's numerous health and demographic surveillance sites. Research on non-communicable disease risk-factor surveillance in Asia continues, as does our involvement with the World Health Organisation's Study on Adult Health and Ageing (SAGE). Work is ongoing to develop and apply InterVA (www.interva.net) as a standardised alternative to verbal autopsy interpretation in an attempt to better understand mortality patterns in diverse rural settings.

Theme II: A life-course perspective on health interventions – Research focuses on the design and evaluation of health interventions that target different stages of the life course, from the unborn child to old age. Results to date illustrates the potential of the life-course approach for building evidence on associations between lifestyle and other risk factors at early ages and health outcomes in later life. This approach also enables us to study the contribution of different social, cultural and environmental factors to health and disease.

Work is ongoing with the Child-Health Intervention Programme in Västerbotten (Salut) and the Västerbotten Intervention Programme (VIP) to provide trend analyses of major risk factors, and to identify patterns across gender and age. At the end of 2008 we were awarded a 5-year grant as part of the Swedish Initiative for Research on Microdata in the Social and Medical Sciences (SIMSAM), to establish register-based interdisciplinary research on the future of childhood and welfare in collaboration with colleagues from sociology, statistics, cultural geography and environmental medicine.

Theme III: Strengthening primary health care: the roles of rights, ethics and economic analyses – research uses rights-based approaches integrated with economic analyses to inform key stakeholders involved in primary health care in low-, middle- and high-income countries. Encouraging responses have been received from many research partners, including the Vietnamese Ministry of Health, who have given top priority to our research initiative on health care for the elderly in that country, and stakeholders in Guatemala and Tanzania, where ongoing processes of decentralisation are giving new room for participation with regard to local health governance. Studies are underway that focus on elderly health care in South-East Asia and Sweden, district level priority-setting in sub-Saharan Africa, and citizen participation and indigenous primary health care in Latin America.

Theme IV: Gender, social inequality and health – research aims to contribute to social changes within populations and health systems, by generating new knowledge and better understanding of the relation between gender and health. Ongoing research shows that sexual and reproductive health and rights remain unfavourable for adolescents and young women in low-income settings and welfare societies such as Sweden. Health professionals need to be educated in these issues, and suitable interventions are required within health contexts to empower women experiencing gender-based violence. Quantitative and qualitative studies continue on smoking habits, gender stereotyping and the design of smoking cessation programmes, as does research on intimate partner violence and domestic violence in Latin America, sub-Saharan Africa and South-East Asia.

Theme V: Climate change and health – the increasing global concern around climate change and its possible effects on health has led us to introduce this as a fifth research theme. We seek to fill the knowledge gap regarding links between climate change and health, and have been working with colleagues from the Infectious Disease department to develop initial research plans. A one-day conference was held in November 2008 to bring together individuals from the broader Medical Faculty with external collaborating institutes such as Heidelberg University, and we welcome the opportunity to engage with key stakeholders in preparation for the Fifteenth UN Climate Conference in Copenhagen this year. Non-communicable diseases, ageing populations, health sector responses in low-income countries and issues particular to the Arctic region will form the basis of initial work under this new theme, in addition to the

publication of a series of articles examining 'heat and health' in our journal Global Health Action (www.globalhealthaction.net).

Investments have been made to communicate the work of CGH and raise its profile amongst key audiences. CGH's website (www.globalhealth research.net) continues to be developed, and is being used as a tool alongside our brochure, media engagement, external websites, targeted mailings and representation at relevant conferences to market the Centre amongst existing and new contacts. The Centre's brochure is available to download from our website.

Global Health Action

A major asset of CGH is our international peer-reviewed open access journal, Global Health Action (www.globalhealthaction.net). Launched in May 2008, GHA seeks to contribute to fuelling a more concrete, hands-on approach to global health challenges. The Centre's capacity-building efforts and inclusive nature is embedded in the journal through mentorship opportunities offered to authors and its open access model. GHA particularly welcomes articles from low- and middle-income countries, as well as those stemming from South-South and South-North research collaborations. It its first year GHA has published fifteen articles and one supplement, and continues to attract topical and rigorous submissions. A highlight for this year is our theme issue 'Heat and Health'. GHA is published in association with open access publisher Co-Action Publishing (www.co-action.net).

Public health and the epidemiological transition

Many developing countries lack systems for the routine registration of vital events on a nationwide basis. Thus local community-based population surveys are often needed to understand public health needs and trends.

Collaboration between investigators in various countries, not least through the *INDEPTH network* (of which our collaborating field surveillance sites in Indonesia, Ethiopia, Vietnam, Nicaragua and South Africa are members) continues. One methodological challenge has been further work on determining cause of death retrospectively using the verbal autopsy technique. Although the verbal autopsy (VA) approach is well established, it has relied on a lot of doctors' time to interpret results. We have now developed a computer model for VA interpretation.

DSS in Ethiopia

In Ethiopia, the overall objective of the ***Butajira "field laboratory***" has been to run a continuous Demographic Surveillance System (DSS) for registering births, deaths and mobility in a defined population of initially approximately 30 000 since 1987. Currently work is underway, not only to assess the current situation, but also to evaluate longer-term trends. All of these tasks can only be undertaken on a scientific basis if the background data of the population are known – for which the field laboratory concept for population surveillance is absolutely crucial. In many ways the area chosen is representative of much of Ethiopia – with a mix of ethnic, religious and social groups in ten different communities. Better understanding of health in these communities provides the impetus and platform from which interventions can be launched and evaluated. In demographic terms, it is clear that the area is undergoing considerable change, with increasing life expectancy and net movement towards the urban centre of Butajira town. 2006 was the 20th anniversary not only for the division but also for the Butajira project. The initial census that gave the baseline for demographic surveillance was performed in late 1986. In early 2006, a dataset including the first eighteen years of surveillance, 1987-2004, was compiled and cleaned for analysis. As part of the anniversary celebrations, a poster was prepared. This shows results and output from the Butajira activities, both in terms of population experiences of vital

events and academic achievements by the researchers involved within the Ethiopian and Swedish partner institutions. Overall, the picture of inequality between rural and urban areas persists. Unequal living conditions and access to services create differences in even the most crude public health indicators. The same pattern has been seen since the first year of operation of the Butajira DSS, without any changes except in short term fluctuations.

Contact: Anders Emmelin

DSS in Indonesia

Our collaboration with the Community Health and Nutrition Research Laboratory (CHNRL), Gadjah Mada University Jogjakarta and the Purworejo Health and Demographic Surveillance System (HDSS) has played an important role in providing accurate demographic and epidemiological data for evidence-based policy making at the district level. Results from the demographic surveillance and from different studies conducted in collaboration with us have been utilised for district health planning during the last 15 years, especially in the field of mother and child's health and nutrition. Along with the epidemiological transition, our collaboration with Purworejo DSS has been expanded into the field of adult health, ageing, chronic non-communicable disease (NCD) and its risk factors.

Together with the CHNRL Gadjah Mada University, Jogjakarta, and WHO, we measured the burden of chronic diseases and monitoring their risk factors' trends in Purworejo District during 2001-2005. The cause of death in Indonesia reflects a more classical pattern for developing and middle-income countries that are in epidemiological transition, with over 60% of deaths being due to chronic NCD conditions, predominantly cardiovascular diseases. The major chronic NCD risk factors were prevalent in Indonesia, and these include smoking (up to 63% among adult men), high blood pressure (24% among men and women), overweight (10% among men and 25% among women), low level of physical activity (12% among men and 26% among women), and over 90% of the adult population consumed less than five servings of fruit and vegetable every day. About 16% of men and 23% of women had at least three of the risk factors above.

In 2007, we conducted the WHO SAGE study to examine physical and cognitive functions in population over 50 years old in Purworejo District. The study was designed as a multi-site study conducted in eight HDSS within the INDEPTH Network. We identified that poor health and low quality of life were not randomly distributed in the population. Clusters of households with poor self-reported health status were identified in semi-urban and coastal areas. Becoming older and losing marital partner are significant predictors of poor self-reported quality of life and poor health status. Socio-economic status was a significant predictor for poor quality of life in the population. The study showed the existence of geographic pockets of vulnerable elderly in Purworejo District, and therefore speaks out the need of addressing elderly health and quality of life and calls for immediate action to be taken. Lack of care and services for elderly population have to be addressed, and the mindset of "to cure the elderly" should be changed into "to care the elderly". We plan to repeat the chronic NCD risk factor and adult health surveys in 2009.

Contact: Nawi Ng

DSS in Vietnam

The population of Vietnam appears to be undergoing rapid social and economic changes, following the war period and also in the current climate of "Doi Moi" reform. An epidemiological field laboratory called FilaBavi has been in operation since 1999 in the Bavi district, some 60 km from Hanoi. Its purpose is to give a perspective on a local population's demographic and health status as well as monitoring ongoing changes. FilaBavi is a joint effort with the Vietnamese Ministry of Health, Hanoi Medical University and the Health Strategy & Policy Institute, in collaboration with us and IHCAR at the Karolinska Institute.

Contact: Lars Lindholm

Tanzania and HIV

Since 1986, the Kagera AIDS Research project (KARP) has followed the magnitude,

the community response and the social impact of the HIV-epidemic in the Kagera region in Tanzania. A baseline survey revealed an overall prevalence of HIV-infection varying from 24% in the urban area to 0.4% in the most remote rural area. The population in Kagera formed a study base for both quantitative and qualitative studies to better understand the epidemiological and socio-anthropological dynamics. The first thesis, in 1994, included prevalence and incidence estimates, interaction between HIV-1 and syphilis infection, and also in-depth behavioural and socio-geographical studies with evaluation of knowledge, attitudes and perceptions regarding HIV-infection risks. The longitudinal design of the project has allowed population monitoring of prevalence and incidence trends. In the late '90s, studies from the urban area indicated a decline in HIV-infection prevalence among young adults and follow-up studies of incidence later supported these results. Data from some of the rural areas also showed a declining trend in previously medium- and low-prevalent areas. The trend analyses were presented in a thesis in 2001. Parallel to the epidemiological monitoring, socio-anthropological studies were performed addressing the stress of AIDS, coping mechanisms, gender oppression and behavioural change. Socio-linguistic research contributed to the analysis of the linguistic discourses and metaphors relating to the epidemic presented in a thesis at Leiden University, Holland in 2001.

The encouraging results of a declining trend have been discussed based on qualitative data about social, cultural and sexual behavioural aspects of the observed changes [Lugalla et al 2004]. The specific role of Non-Governmental Organisations' preventive efforts targeting youth was the focus of a Masters thesis [2003:8]. These studies suggest major behavioural change that could be explained by the severity of the epidemic and the following cognitive and emotional reactions, but also by the diversity of intervention activities that have been ongoing in the area during a long period of time. However, the results also indicate a complex situation where the changes differ among different social strata.

The epidemic is still a great public health problem in the region and in Tanzania as a whole. The longitudinal nature of KARP is therefore utilised for continued monitoring of the direction of the epidemic and for focused sub-studies evaluating the role of interventions to better understand the promoting factors for change. We continue to follow the epidemic in the urban area and also re-visit areas not studied since 1987. The focus is to assess if and why they have been protected from further spread. The cross-sectional studies performed in 2005/2006 in the urban area revealed socio-economic and gender inequalities in the HIV prevalence. An on-going PhD project focus on equity aspects of HIV/AIDS, comparing the cross-sectional and follow-up data from the different districts in Kagera. This PhD project also explores the role of social capital in the observed decline in HIV trends.

A KARP website has been developed where the project is presented and the main activities and results summarised (www.muchs.ac.tz/kageraproject/index.html)

Contact: Maria Emmelin

Strengthening primary health care

The research in this theme is designed to inform key decision-makers involved in actions and interventions to strengthen primary health care in poor and rich countries, through projects stemming from integrated rights-based approaches and economic analyses. Some of the research projects we are involved are described below.

Priority setting in health care

This research area concerns explicit priority setting in health care and, more specific, institutional prerequisites required for such procedures. The focus research emanates from considering explicit priority setting a new technology – an innovation – to health care organisation. To implement any innovation, literature points to the compatibility of the innovation to central

features of the organisation of interest. In this case, a comparison shows little compatibility between the two – thus indicating a need for organisational development to make implementation possible; i.e. explicit priority setting to become an integrated part of the management system.

In Västerbotten County Council…

This project is taking an action research approach, with combined strategic development efforts in a county council (regional) health care organisation with research interventions. The development efforts have been based on national and international experience and literature on explicit priority setting as well as on research results regarding public management and professional (complex) organisations. The research interventions have concerned the following:

A. Assessing the level of implementation (i.e. the degree of structures and processes for and results) of explicit priority setting in the organisation of study as of years 2002 and 2005.
B. With in vitro fertilisation as a specific case, prioritisation theories and methods were applied in a real-life situation to form an evidence-based proposal that met the standards of the "Accountability for Reasonableness" Model. In turn, the proposal would serve as a basis for a public decision on rationalisation, prioritisation and rationing, whereby given resources were allocated with respect to the ethical template of the Swedish Parliament's decision on priorities in health care
C. The construction and testing of a model for explicit priority setting. The model was used in a full-format process embracing the whole county council organisation. The specific aim of the procedure was to reallocate 3% of the county council budget towards mainly new, cost-effective medical methods of high priority by reducing treatments and activities with low priority. The model combined vertical, department-based priority setting with horizontal, trans-departmental priority setting and finally a political decision. Though methods and procedures for vertical priority setting have been developed and tested before – in some case also ending with a political decision – to my knowledge literature holds no description of methods or procedures for horizontal priority setting, and even less so of a combination of the two.
D. A participant's evaluation of the model and procedure above. This was made by help of surveys constructed and performed during the process and covering each of the three stages.

Contact: Susan Waldau

…and in district health services in sub-Saharan Africa

Undertaking health sector reforms, including decentralisation, to improve performance has so far been less than satisfactory. Health systems are strangled in a vicious cycle: on the one hand management capacity is perceived as inadequate to take full responsibility for priority setting, on the other hand, without effective decentralisation of the priority setting process, the capacity will never increase. District level services from the most peripheral facilities to district hospitals account for a majority of service contacts, and are in general the only services accessible to the poor. Therefore, a district focus is necessary to improve quality, and capacity and outcomes of countries' overall services.

Attempts have been made to strengthen district level planning and management, mainly based on measuring burden of disease, cost effectiveness and capacity considerations and related planning tools. However, sustainability has not been achieved and the value of this approach has not been proven.

National policies, health strategies and plans normally include a strengthening of district health boards with intended community representation and more or less active stakeholder forums. These have so far not performed as expected but they do exemplify that more inclusive priority setting and planning processes are intended. In this situation it is argued that in order to improve quality, equity, accessibility and affordability of care at district level, there is a need for

new approaches to priority setting that fairly reflect, not only the mainly provider-defined burden of disease, but also incorporate capacities and interests of all stakeholders and the demands of the population being served.

A democratisation of decision making and priority setting processes is one way to counterbalance streamlined global policy making and improve local governance. In a five-year EU-supported project, which started in 2006, ways of improving the processes of priority setting in district health management are studied through action research in Tanzania, Kenya and Zambia

Within this project a doctoral study aims to capture potentials and challenges of implementing explicit and fair priority setting framework, "Accountability for Reasonableness", in the contexts of poor resource settings and week democratic institutions in Tanzania. The study uses qualitative research approach to explore social political and institutional contexts within which health care decision making takes place. It also examines improvement gained in the priority setting processes at the district level. Special attention is paid on the changes in perceived fairness and legitimacy in health care prioritization process.

Contact: Stephen Oswald Maluka, Anna-Karin Hurtig

Elderly care

Preventive actions for the elderly in Västerbotten

All over the world the number of elderly people is increasing. The fact that this development is worldwide makes preventive actions among elderly even more important. Shall we treat illness when it occurs or try to prevent illness from occurring is a well-known rhetoric question. Different efforts have been made to evaluate preventive home visits. Most of this research has been done in different European countries but very little has been done in Sweden. Furthermore, it is rare that focus lay on the perspective of the elderly population. Preventive home visits for the elderly are now being evaluated using various methods. The ongoing evaluation indicates that the visits have positive effects on health, and might even reduce mortality and be cost-effective. A comprehensive cost analysis has found that the costs for the visits were equal to the decreased need for health care and home help. When a cost utility analysis was done this also gave result which motivated to implement this strategy. The research has given the result that preventive home visits now is one part of the governments strategy for elderly care. In Västerbotten most of the municipalities and primary health care canters are involved with preventive home visits. This research highlight an all-embracing question: Is it worth working with prevention in older age? The question is relevant, not only in a Swedish setting, but also in developing countries. In Vietnam, with a rapid economic development, a major urbanisation has started. This affects the family structure and the importance of how society is organised to take care of un increasing number of elderly in the rural areas. But it also raises questions of how preventive actions can be organised. Within the FilaBavi DSS an on going project aiming to describe the health situation for elderly and also focus on what there is to do.

Contact: Klas Göran Sahlén

Challenges in Vietnam

An ageing population in developing countries will impact heavily on the need of social services and health care. The economic and social transition ongoing in low-middle income countries is mainly driven by young people moving in from rural areas. One consequence is an increasing distance between generations. This will likely gradually demolish traditional three generation households, the corner stone for elderly care in many countries.

New diagnostic and therapeutic methods are available also in poor countries for those who can afford them. Health care financing systems tend to be more dominated by out-of-pocket payment, however those unfortunately hit by severe illness can often be supported by informal insurance networks mainly based on family relations. These informal insurance networks can be strengthened by members' migration from

rural areas since those leaving can expect larger cash incomes and thus send more back home, but on the other hand they become weaker when traditional family ties are diluted.

The most vulnerable group in this transition is the elderly, simultaneously having the greatest needs for health care and social welfare but the lowest incomes. The main demographic process is a trend towards increasing the number of the elderly, while the technical treatment opportunities grow as a part of a global health care trend and thus peoples' health expectations grow. At the same time, traditional systems for care giving and informal insurance seem to break down. The general objective in this PhD-study (LV Hoi) is to assess health, needs and costs for care for older people in a rural area of Vietnam – current patterns and future perspectives.

A second PhD-study on this topic is planned, and it can be considered as a continuation of Hoi's studies. Thus we will rely heavily on results achieved in Hoi's studies. The theme chosen are the differences between rural and urban areas. Hoi's studies have been done in the rural Bavi and we now intend to continue with studies in DoDa, a site in the capital city Hanoi. The two sites put together can probably catch aspects on transition – the more traditional Bavi versus the "modern" metropolitan area Hanoi. The general objective in this PhD-study is to assess the opportunities of health insurance and formal elderly care to met the needs of elderly in urban and rural areas in Vietnam.

Contact: Lars Lindholm, Lee Van Hoi

Control of infectious diseases

Improvements in Tuberculosis control in Indonesia

Indonesia has shown promising progress in Case Detection Rate and Treatment Success Rate in the Tuberculosis Control Programme. However, DOTS (the internationally recommended strategy) is not provided to TB patients in all health facilities, including hospitals, although almost all geographical areas are covered by DOTS through health centres. In fact, many TB cases in hospitals are not managed properly and are not reported to the National Tuberculosis Programme. The National Tuberculosis Programme has initiated the expansion of DOTS to hospitals in Indonesia between 2006 and 2010. However, lessons from the Hospital DOTS Linkage Project in Jogjakarta, Indonesia, have shown that whilst the involvement of hospital in DOTS has contributed to the increase of Case Detection Rate, hospitals are weak in respect to case holding and treatment supervision. It is therefore important to identify the potential facilitating factors and barriers to scaling up DOTS in hospitals in order to contribute to the planning and implementation process in the Ministry of Health. This may also provide useful lessons in the scaling up of public health programmes in clinical settings in general. The overall aim of this doctoral research is thereby to contribute to the tuberculosis control programme in particular as well as to the health system in Indonesia in general.

Contact: Ari Probandari

The co-epidemic of tuberculosis and HIV/AIDS in Cameroon

WHO recommends collaborative TB/HIV activities and the policy goal is to decrease the burden of TB and HIV in populations affected by both diseases. The objectives of collaborative activities are: (1) to establish the mechanisms for collaboration between TB and HIV/AIDS programmes; (2) to decrease the burden of TB in people living with HIV and AIDS; and (3) to decrease the burden of HIV in TB patients.

Likewise, providing highly active anti-retroviral therapy (HAART) to HIV infected TB patients is now a WHO 'standard of care' policy and managers of several DOTS programmes have adopted this. Through strengthening the links between HIV and TB programmes and general health services, voluntary counselling and testing (VCT) serves as the entry point for prevention and treatment of HIV/AIDS, and as a key to a more coherent response to TB in high HIV-prevalence settings.

TB/HIV co-infection poses a major threat in the Northwest Province (NWP) of Cameroon

and thus necessitates important measures to curb the spread and reduce new infections, and treat already existing cases. The overall objective of this PhD project is to identify the various barriers to VCT for HIV among TB patients in the NWP of Cameroon in order to highlight the benefits of collaborative TB/HIV activities to policy makers and improve uptake of VCT services in the province.

Preliminary results from this ongoing study show that the dual stigma and social exclusion associated with HIV and TB act as barriers to TB patients being tested for HIV as well as the cost of seeking care, gender inequality issues and health care system factors, such as staff attitudes towards these patients. It is therefore of paramount importance that the socio-cultural, environmental and political factors, which are common to both TB and HIV/AIDS, are addressed jointly in control strategies.

Contact: Barnabas Njozing

HIV/AIDS/TB care and prevention among Swedish immigrants

Currently, Sweden and other Western European union (EU) countries are experiencing increases in immigrant-associated TB and HIV cases, which is an important public health challenge. Africans are the most severely affected migrant community for both HIV/AIDS and TB. These communities have different cultural backgrounds and speak different languages, which can restrict them from accessing and using health care services and therefore prevent them from receiving the care they need. Moreover, structural barriers may result in some populations, including undocumented migrants, being neglected in terms of detection of health problems and in health service provision. These are substantial obstacles to HIV/AIDS and TB care and prevention among immigrants and the Swedish population in general. Identifying and understanding the role of these barriers may help to develop integrated intervention programmes.

This project is therefore an attempt to determine the effects of socio-cultural, structural and linguistic barriers, as well as prejudice, on the prevention and care of HIV/AIDS and TB among immigrants in general, and sub-Saharan African immigrants in particular, by asking the following questions: What are immigrants' knowledge, beliefs and attitudes concerning HIV/TB transmission, prevention, care and treatment? What are the barriers to health care service utilisation and to diagnosis, prevention and treatment of HIV/TB among sub-Saharan African immigrants? Do the barriers include accessibility, acceptability, availability and affordability? What are care providers' experiences of caring for immigrant patients? What lessons can be learned?

The overall aim of this project is to investigate, identify and delineate potential difficulties to HIV/AIDS/TB care and prevention with a view to recommending ways in which these may be overcome.

Contact: Faustine Nkulu Kalengayi

Mother to child transmission (MTCT) of HIV in Malawi

This doctoral project aims to study the demand and adherence of the PMTCT services among women in rural Malawi and explore barriers and promoting factors to the delivery of the PMTCT programme as perceived by rural women, men and service providers. Special attention is given to the implications of home deliveries to the programme and how to avert their negative consequences.

Malawi is one of the African nations hardest hit by AIDS pandemic with 14% of adults aged from 15 – 49 infected with HIV. It is estimated that over 900,000 people have already died to AIDS and a child born today, has a life expectancy of just 39 years. HIV prevalence rates in pregnant women country wide range from 16% – 36%. In 2004, 540,000 women of child bearing age tested HIV positive and about 35% of these mothers are likely to have transmitted HIV to their newborns. Malawi Government through its Ministry of Health has initiated free maternal care and routine (opt-out) HIV testing among the antenatal (ANC) women in both public and faith based health institutions,

interventions which have began showing positive results at Malamulo hospital (see figure below).

Evaluating Prevention of mother to Child Transmission of HIV in Malawi (Kasenga et al, GHA, 2009)

Contact: Fyson Kasenga

Early diagnosis and treatment of uncomplicated malaria in Tigray, Ethiopia

Ethiopia is one of the Sub Saharan Africa countries where malaria is an old and long standing major public health problem despite the long history of malaria control since the late 1950's.. In Ethiopia over five million episodes of malaria with 70,000 deaths are estimated to occur annually.

Early diagnosis and prompt treatment of the disease is considered the principal technical component of the national malaria control strategy. In order to ensure the implementation of this strategy, Ethiopia has initiated a series of changes in its malaria control policy. In July 2004 the frontline anti-malarial drug of uncomplicated falciparum malaria was changed from Sulfadoxine-pyrimethamine (SP) to Artemether-Lumefantrine (AL). A second aspect of the new policy relates to the diagnostic capacity. Traditionally the diagnosis of malaria at the health post level has been done clinically (presumptive treatment). Currently the new policy aims for all health posts being able to diagnose malaria through rapid diagnostic tests (RDT). Related to the other two changes and in response to the country's unmet health care needs, the same year (2004) the government made the decision to strengthen and expand the primary health care level by launching the Health Extension Service Program (HESP). This program is design to achieve significant basic health care coverage in the country over five years though the provision of a staffed health post to serve every 5000 people. By 2009, more than 15,000 health posts are expected in the rural sub-districts.

This project will focus on: the performance of the currently used tests through sensitivity specificity in the field, the quality of care of the newly trained staff and the patients´ adherence to the new drug through survey questions. Cost-effectiveness will also be measured.

Contact: Hailemariam Lemma

Revitalising health for all

Intercultural health in Ecuador

In 2007, an international network of researchers and people involved in building comprehensive primary health care (CPHC) received funding from the Canadian Global Health Research Initiative and its 'Teasdale-Corti' Research Program to support research and research capacity-building. This network, associated with the People's Health Movement, includes projects in India, Africa, Latin America, Europe, Canada and Australia.

We are part of the Latin American network which involves 7 countries analyzing different aspects of CPHC experiences nationally. In Ecuador, the Ministry of Health approved in 2008 a reform of the health sector called Health Sector Transformation. This reform is based on a familiar, communitarian and intercultural health model characterized by rural and urban basic health care teams visiting the families and communities regularly. The intercultural strategy is however poorly articulated.

This research will try to guide how the harmonization of indigenous health systems with the conventional health system can be done in a province of the Ecuadorian Amazon region. It will follow an intercultural approach to health which recognizes the importance of charactering the population and understanding the dimension of ethnicity, culture and the cosmic vision of peoples. During the research process, the understanding of the components and response capacity of the different health systems as well as the knowledge, attitudes, practices and perceptions of the health care users will be analyzed. An additional goal will be to inform the decision making process of the Ministry of Health regarding the intercultural health strategy.

Contact: Erika Artega

The role of social participation in promoting democratic governance in local health systems: a case study in Guatemala

The health system of a country is part of the larger social, economic, and cultural system. Because of this, many factors may contribute to the way a health system works. These are called 'social determinants of health'. In 1978, many countries recognized this and the challenges these determinants presented by signing the Alma-Ata declaration and committing themselves to re-structure their own health systems according to the Primary Health Care (PHC) principles.

One of the key elements of PHC is social participation. However, different stakeholders understand it in very different ways. Ideally, participating in the health system should promote change, equity and local-level policy-making.

Guatemala signed the Alma-Ata declaration and committed itself to using social participation as a means to attain sustainable social development for its population in the 1996 peace agreements. To guarantee this, there is a legal framework in place, and a countrywide, bottom-up social participation structure. However, we still don't know what role this participation structure plays in the health system, if it is effective and if it contributes to pro-equity policy making. This study aims to analyze the way social participation processes work within the health system and aims to improve the quality and the level of participation within it.

Contact: Ana Lorena Ruano

Fighting poverty and natural disasters in Nicaragua

Nicaraguan society has been characterised by rapid social changes during the last twenty-five years. A dictatorship followed by political unrest, along with recurring natural disasters characterises the small Central American country and it is ranked as one of the poorest in the Americas. The poverty is affecting more than two thirds of the population.

UNAN-León – arriving at sustainable research training

Since the 1990s, Sida/SAREC has supported research collaboration with the Nicaraguan university, UNAN-León, and the Swedish universities Karolinska Institutet, Umeå University and Uppsala University within the research areas of infectious diseases, occupational health, demographic health research, reproductive health and mental health. The long-term objective has been to strengthen research capability by supporting post-graduate training at the medical faculty in León. The ongoing cooperation between each institute has achieved its first step by offering masters programmes in epidemiology, occupational health and infectious diseases, and through the creation of three research centres. The collaboration has also witnessed the graduation of 12 PhD students, sandwich trained in collaboration with Swedish universities, and published over a hundred scientific articles.

The Swedish government decided in 2007 to close down development aid as well as research collaboration with Nicaragua. For the out-phase period (2008-2011) all registered PhD student will have support from Sida/SAREC to finalize their theses. Further, the medical faculty of Uppsala University will support UNAN-León to enter the final stage of having a local PhD programme to achieve a sustainable research environment in medical sciences at UNAN-León.

CIDS and Umeå

For Umeå University (Department of Epidemiology and Public Health Sciences and Department of Psychiatry) the Nicaraguan counterpart in the collaboration is the Centre for Demographic and Health Research (CIDS). It was founded in 2002, with the objective to create a permanent platform for field epidemiology training at masters level and for postgraduate studies, primarily directed to students from the Central American region. Since the beginning of 2005, regular cycles of updated base line data for the HDSS (Health and Demographic Surveillance System) have been performed. This is the core activity of CIDS and serves as a platform for population-based studies, a sampling frame for interventional studies in

occupational health, and community diagnostics of infectious diseases. Thus, it is anticipated that new links will be created with other research programmes and suitable conditions for the development of research intervention strategies for any public health problem may be established.

Research has mainly been performed in the areas of maternal and child health, adolescent sexuality, suicidal behaviour, post-traumatic stress after the hurricane Mitch, accidents, domestic violence and the effects of violence on reproduction and child health. The knowledge gained on prevalence and mechanisms for action allows for planning of interventions in health services research, prevention of accidents, suicide and teenage abortions, STDs, HIV infection and for prevention of dengue haemorrhagic fever.

The joint program of CIDS Demographic and Health Research is with IMCH, Uppsala University and Umeå University. The units of Mental Health and Gender and Reproductive Health are now developing further collaborations with Uppsala and Umeå.

Sibling caretakers

A study on sibling caretakers has been performed in deprived, urban areas of León, The PhD-project is described elsewhere in this Annual Report as the thesis was defended in October 2008. Dissemination of the findings in Nicaragua is in progress together with participants in the study, and a report in Spanish of the main findings will be published in the end of 2009.

Contact: Kjerstin Dahlblom

Studies on suicidal behaviour among young people

Various studies within this research field have been conducted and at present a study is performed by Claudia Obando's as her PhD-project which investigates mental health problems, drug abuse and other risk factors for suicidal behaviour with special reference to young boys.

Contact: Kjerstin Dahlblom

Studies on intimate partner violence

The research field of intimate partner violence was initiated by Mary Ellsberg (PhD thesis 2000: "Candies in hell: research and action on domestic violence against women in Nicaragua") and Dr Eliette Valladares (Ph D thesis 2005: "Partner violence during pregnancy, psychosocial factors and child outcomes in Nicaragua"). This research line is now continued by Dr Mariano Salazar with the PhD project "Child outcomes, protective and risk factors for intimate partner violence in Nicaragua: a cohort study" addressing prevalence and characteristics of continuous intimate partner violence and its effect on the index children's morbidity and growth in Nicaragua.

Contact: Ulf Högberg

Tobacco prevention – from global to local level

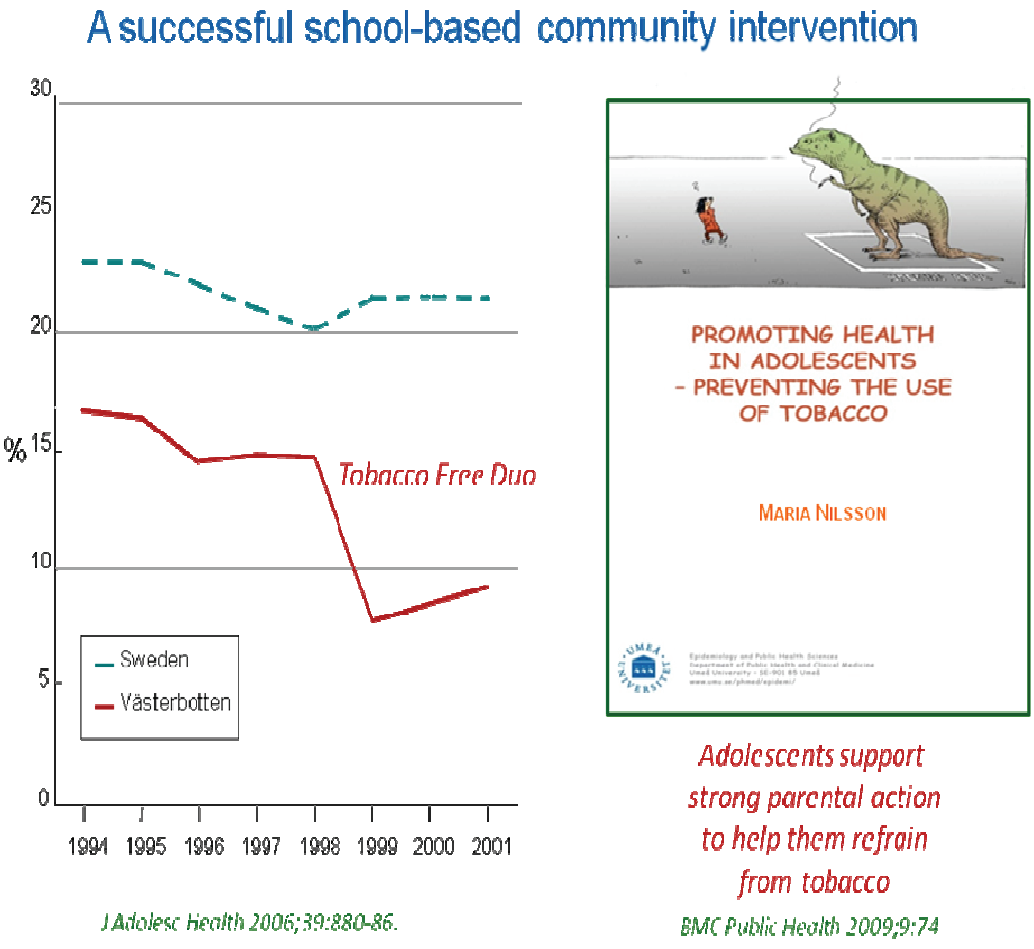
Worldwide, one of ten deaths is caused by tobacco. Every six seconds somebody dies a tobacco related death. According to WHO the number of people dying from tobacco during the last century approximated 100 million and is expected to rise to one billion deaths during the 21st century. Globally, tobacco use is rising. The global trend is that smoking is increasing with a transition from north to south. Worldwide, about 50% of men and more than 10% of women smoke. . The need to curb the pandemic is indisputable. In 2003, WHO adopted the Framework Convention on Tobacco Control to promote global action against tobacco, the first ever international treaty on health. The convention was ratified at the end of 2004 and Sweden signed the convention in June 2005..The main strategies used in Sweden to reduce smoking on a societal level have been through information, taxation and legislation during the last decades. At the group and individual level, the most important strategies have been tobacco cessation initiatives targeting adults and supporting young people in saying no to tobacco. Both adults and young people need to be addressed in order to reduce the use of tobacco. From a Swedish perspective, primary prevention in young people is an under researched field. So is research on snus. There is a need for more knowledge,

interventions have to be developed and evaluated. Research projects at the department are addressing these issues. Different examples of our work in the field of tobacco prevention are given below.

Tobacco free duo

In order to prevent adolescent tobacco use in the county of Västerbotten, the development of a long-term programme started in 1993 by the County Council. The programme, targeting young people, called '*Tobacco free duo*', is a comprehensive programme mainly focusing on building policies, increasing knowledge on tobacco related issues and utilising adult support and methods of social influence. The programme was evaluated in 2006 and a significant decrease in the prevalence of smoking among young people in Västerbotten was found, compared to the national level. The name 'Tobacco free duo' originated from the idea that a young person and an adult signed a mutual contract to stay tobacco-free together for the next three years. The adult was thereby making a commitment to both provide a good example and to actively support the younger person in staying tobacco free. The effect on tobacco use among the adults involved was studied in 2008. A reduced use of tobacco was found. Engaging adults as partners in tobacco prevention interventions that target adolescents can have an important tobacco reducing bonus effect in the adults.

Contact: Maria Nilsson



Tobacco and pregnancy in South Africa

In recent decades increasing urbanisation has been seen in South Africa, particularly in the black African population. In 1991, 48% of the population lived in urban areas, increasing to 54% in 1996 and it is projected to rise further. The South African population is also highly mobile and migrates constantly between rural and urban areas, resulting in a quick transfer of urban influences to rural areas. A dual burden of disease occurs. The challenge for health is to complete the unfinished task of managing the diseases of poverty while simultaneously initiating prevention and cost-effective care of patients with non-communicable diseases. One priority is tobacco prevention in coloured pregnant women. It has been shown that the coloured women of South Africa have high smoking rates during pregnancy. Consequently, they have high rates of pregnancy complications affecting themselves and their unborn babies. In collaboration with the Medical Research Council (MRC) in Cape Town, studies have been carried out in Western Cape to identify the influences on coloured pregnant women causing them to smoke, to describe the role of midwives in smoking prevention and cessation and to describe the perspectives of key informants in the health services regarding the high smoking rates. The results from these studies and intervention experiences from other settings, including Sweden, formed the basis for designing an inter-vention study. During a series of exchange visits and joint workshops, a plan for the intervention and a scientific evaluation was developed in close collaboration with actors involved in the training of midwives and those responsible for developing antenatal services in South Africa and in the province of Western Cape. A baseline survey was performed during 2006 and the intervention phase started in January 2007. Two South African PhD theses (one registered at our department) are based on this project. The first focus on the development of the intervention design and on the evaluation of its impact on smoking rates while the other describes the intervention process and its influence on midwives and pregnant women.

Contact: Maria Emmelin

Tobacco control in Indonesia

Indonesia is the fourth largest tobacco market in the world. The high level of tobacco consumption is an effect of a weak tobacco control policy. The main reasons for poor tobacco control methods are the contribution that the tobacco industry makes to government revenue and job opportunities. The government is dependent on the tobacco industry as a means for sustaining employment levels, and for taxation revenue. Programmes and policies to reduce the exposure to environmental tobacco smoking (ETS) in public places and workplaces are regulated, but not well implemented. Today almost all studies on ETS are performed in developed countries with a prevalence of smoking lower than in most countries in Asia, and in particular in Indonesia where a totally different smoking culture exists, including higher tolerance of smoking in public places and at home. Therefore, a study has been initiated with the overall objective to study the effects of ETS exposure on the respiratory status of adolescents and to understand social norms and beliefs for implementing a feasible strategy to reduce domestic ETS exposure in Jogjakarta, Indonesia. A survey of 2296 households showed that 47% of men and 59% of women aged 15-75 years were exposed to ETS.

Contact: Lennarth Nyström

Smokeless tobacco in association with other lifestyle habits in Sweden

In Sweden the use of smokeless tobacco, snus, has increased dramatically in parallel with decreasing smoking prevalence. Today 19% of men and 4% of woman use snus daily and 12 % of men and 16% of women are smokers. Studies on associations with disease outcomes have shown conflicting results regarding risk of myocardial infarction and diabetes but these studies have generally been rather small and not taking different doses of snus use into account. In panel studies based on Västerbotten Intervention Programme we have previously shown associations between high consumption of

snus and metabolic syndrome, obesity and hypertriglyceridaemia. Several review articles have concluded that there is a need of large longitudinal studies on potential health hazards of snus use. There is a well known association between smoking and alcohol consumption and a similar association is shown among Swedish male adolescents, but comparable studies on adult populations are lacking.

Our previous studies are now extended and focused on associations between snus use and other life style habits. Preliminary results show that there is an association in a middle-aged population between alcohol consumption and the use of snus.

Contact: Margareta Norberg.

Gender based violence

Intimate partner violence during pregnancy in Sweden

In a project from Umeå, both quantitative and qualitative methods have been used with the aim to study different viewpoints on intimate partner violence (IPV). The main focus has been on gender and on the period of pregnancy and childbirth, and the study has been carried out in different locations in the north and middle of Sweden.

The project has four parts, two are finished (midwives and professional) and two are still ongoing (women and men).

Midwives working in antenatal care (ANC) in Västerbotten were asked about experiences, knowledge, attitudes and routines regarding violence against pregnant women. At the time of the study, IPV was not a part of the antenatal care agenda and, although very knowledgeable about and sensitive towards pregnant women and their needs, midwives rarely revealed the occurrence of violence and were probably disclosing only a fraction of the cases [Edin et al. 2002]. Guidelines about asking all pregnant women about violence were initiated in antenatal care in Västerbotten in 2005 and findings from this study were included in the development of this policy.

Professionals working with men prone to act violently were interviewed at two prisons and at two centres for men (inclined to violence or with different life crises). The study pointed out some restricted and narrow discourses in the programmes that might have opposite effects to the good intentions [Edin et al., 2008, 2009].

Women that had been subjected to IPV during their pregnancies were interviewed. They described relationships with severe violence where they balanced between hope and despair. The women had several strategies to cope in everyday life, to protect the family and the unborn baby and while they offered resistance to the violence they also tried to cover up, even when meeting midwives at antenatal care appointments (Edin et al. in press, 2009). The collected data is very rich and at least one more paper will soon be submitted for publication.

Men that had been reported as violent against their partner and had joined treatment programmes have been interviewed in an ongoing study. Nine interviews have been carried out this far. The results from these interviews are aimed to generate new thinking about discourses of violent men. The insight is expected to be used to counteract and prevent violence, in particular when related to intimacy, pregnancy and parenthood. The analysis will be ongoing during 2009 and some more interviews might be needed to give a more comprehensive picture of violent men.

An upcoming project:

Antenatal care is regarded as a window of opportunities since it gives the midwife the possibility to see pregnant women (and their partners) about 6-10 times during a pregnancy. Consequently, ANC seems to more and more turn into an arena for psychosocial matters and health and life style issues asking questions about such as IPV, smoking, alcohol, depression etc. But can the questions be intrusive? What does this indicate to the expecting parents? Does it mean a new role for the midwife? Has ANC been supportive from the parent's point of view? Is the ANC sometimes a threat? These and other emerging questions and ideas will soon hopefully be a new study carried out in the antenatal care in Västerbotten

Contact: Kerstin Edin

Violence Against Women - A Global Network

Violence against women (VAW) is a major public health problem. The research challenges are now in-depth analysis, cross-cultural understanding, how to strengthen the health sector response and addressing men´s role in prevention. Swedish research on VAW is internationally recognized and has extensive research collaboration with low-income countries. Gender and Medicine (Linköping), IMCH (Uppsala) and Epidemiology and Public Health Science (Umeå) have started a globally oriented network as an interdisciplinary arena of gender, public health, epidemiology, and social sciences. The overall objective is to generate knowledge for development support. The specific aims are: discussion, exchange and development of common research questions, methodology and cross-cultural studies disseminiation of knowledge north-to-south and south-to-north.
http://www.hu.liu.se/ike/genus-och-medicin/vaw_global_network

Contact: Ulf Högberg

WHO multi-country study: Ethiopia

A study of Women's health and Domestic violence was carried out within the BRHP infrastructure in 2001. This included qualitative components exploring attitudes and perceptions about domestic violence, a cross-sectional survey of the prevalence of domestic violence among women of reproductive age and its association with mental health, and a sub-study of the association between exposure to domestic violence and child survival. The study followed the core protocol and questionnaire used in a WHO multi-country study performed in different parts of the world but also included an additional part for screening of mental disorders (CIDI). The project is a collaborative venture between our Department, the Department of Psychiatry at Umeå University and the Department of Community Health in Addis Ababa. The results from the Ethiopian cross-sectional study were included with the results from nine other countries (Bangladesh, Ethiopia, Japan, Namibia, Peru, Samoa, Serbia and Montenegro) in the WHO Multi-Country Report launched in 2005. Further analyses of the Ethiopian data constitute the basis for a PhD project in psychiatry by an Ethiopian collaborator focussing poverty and mental health, and investigating the association between domestic violence and mental health, changing attitudes and norms and child survival.

Contact: Ulf Högberg

Prevention of domestic violence in Indonesia

The research theme of intimate partner violence (IPV) will be addressed in a PhD project. The objective is to generate knowledge of women's experiences and perceptions of domestic violence in Indonesia and to identify feasible preventive strategies at the community level, especially focusing on masculinity and men's involvement as health promoters for prevention. The framework is gender research. The methods applied will be quantitative, analysing data from a cohort of women interviewed with the WHO-questionnaire on domestic violence, and qualitative, with focus group interviews and in-depth interviews with women and men. It is anticipated that the results will improve knowledge on norm systems, and identify barriers and supporting factors for ending IPV.

Contact: Maria Emmelin

Violence research in Tanzania

The initial results on prevalence, health outcomes and women's responses from the multi-country study on womens' health and domestic violence against women were presented in 2005. The study was based on surveys in 10 countries, one of them the United Republic of Tanzania. Based on sampling of 2200 households in the capital Dar es Salaam and in Mbeya, the prevalence of physical or sexual violence or both was estimated at 19%, 12%, and 27% respectively

in Dar es Salaam, and 16%, 9.4% and 22% respectively in Mbeya. During 2006, three new PhD projects were initiated within the same subject area. All three studies will be performed in Ilala district in the southern part of Dar es Salaam. One of the projects aims at estimating the prevalence of rape and describes socio-cultural factors and responses to rape and rape victims with a view to being able to develop preventive political and community strategies as well as improvements in health care. The second project is looking at health workers' and community groups' perceptions about intimate partner violence and their roles in care and prevention with a view to suggesting relevant intervention strategies within health care organisations as well as at the community level. The third project focuses on the sexual abuse of children, with the overall aim of contributing to a better understanding of the magnitude of the problem, identifying community perceptions and socio-cultural factors that perpetuate its occurrence, and identifying the perceived roles of different community groups in handling the problem.

Contact: Maria Emmelin

Reproductive health

Adolescent pregnancies in the Amazon basin of Ecuador

Nearly 1,2 billion of the world's population is adolescent, the great majority living in developing countries. At this period of challenges and transformations, gender inequities place girls at higher risks of abandoning school, early marriage and childbirth.

In the Andean Region of South America 1.5 million out of 7 million of adolescent women are or have been ever pregnant. Adolescent fertility rate has not declined, and in countries like Ecuador, it has increased from 84 per 1000 in 1989 to 100 in 2004.

Ecuador, where 20% women get pregnant before 18, has the highest adolescent fertility rate of the Andean region. In Ecuador inequalities between girls of different educational levels, geographical regions and household incomes are prominent. While 43% of illiterate adolescents are or have been pregnant, only 11% of adolescents with secondary education are. Geographically, the Amazon basin shows the highest adolescent fertility rates (121 per 1000).

Studies on adolescent pregnancies abounds, the majority highlighting the negative consequences related to reproductive outcomes (especially among the youngest), general health and educational and socio-economic. There is also qualitative research pointing out the perceived positive outcomes related with "gaining status and respects" in contexts where maternity is core value for women.

The overall aim of this project is to contribute to a better understanding of adolescent pregnancies in the Amazon basin of Ecuador, and to identify protective factors useful for the development of preventive strategies, focusing in the youngest adolescents and indigenous nationalities.

Preliminary findings stress the gaps between policy and practice when looking at women´s reproductive and sexual rights situation. Rural indigenous women face a much more vulnerable situation, and official records are not the best for monitoring (because national data do not reflect the dismal situation of this area).

Regarding adolescent pregnancies, we found that suffering from sexual abuse during childhood and adolescence, living in a very poor household, experiencing long periods without both parents and not using contraceptives during first sexual intercourse increased the probability of getting pregnant during adolescence. Qualitative research stressed the importance of sexual norms and structures for constraining girls´ agency, and thus their capability to exercise reproductive and sexual rights.

Contact: Isabel Goicolea

Chronic diseases in children and adults

Health in childhood and adolescence

Obesity and pain symptoms may be regarded as "*new morbidities"* in modern society and

are becoming increasingly prevalent in adults and teenagers, however we know little about these health problems among younger school children. In an epidemiological study among 6-13 year olds in Umeå, we found that the proportion of children classified as over-weight was 23% (double the proportion of 15 years ago). The prevalence of pain symptoms (headache, stomach-ache, backache at least once a week) was also 23%. In an ongoing study on mental health among children 9 and 12 years of age, the relationship between mental health and quality of life on the one hand, and overweight and pain symptoms on the other, will be explored further. Preliminary results show that approximately 50% of children who are overweight do not perceive themselves as overweight, and neither do their parents. Children who were aware of being overweight reported a poorer quality of life. A study among 4-year-old children in the county of Västerbotten shows that overweight and obesity are more prevalent in girls than in boys and the prevalence is as high as in school age children. A low socio-economic level of living area seems to be related to a higher prevalence of obesity. Increased preventive efforts, at both the individual and the societal level, must be undertaken to reduce further health risks in obese children.

Contact: Erik Bergström

Celiac disease – a public health problem

Celiac disease, or permanent gluten-sensitive enteropathy, should be added to the public health research agenda worldwide. So far it is an often unrecognised contributor to ill-health, even though an effective treatment is available – namely avoiding all foods with wheat, rye or barely for life. This is not an easy dietary regime and through a focus group study we are exploring how compliance can be facilitated.

For many years we have been responsible for a national incidence register of celiac disease in Swedish children [www.celiakiregister.se], and all 47 paediatric clinics across the country recently contributed to a follow-up from 1998 to 2003. Previously, Sweden experienced a marked epidemic of celiac disease in children below two years of age, partially explained by changes in infant feeding over time. Our follow-up reveals that the increased risk for celiac disease, caused by unfavourable infant dietary practices, remains throughout childhood.

A multi-centre incident case-referent study, combined with an ecological approach, demonstrated that the epidemic might have been avoided if all infants had been introduced to gluten in small amounts while still being breast-fed. Also, other lifestyle factors of potential importance for celiac disease development, such as childhood vaccinations and infections early in life, are being explored.

The Swedish experience has promoted a changing view among the international research community on the aetiology of celiac disease, from deterministic to multifactorial, thus fostering prevention initiatives. We are responsible for Sweden's contribution to a cross-national European multi-disciplinary research project with the ultimate goal to reduce the celiac disease burden among European populations by favourable infant feeding advice [www.preventcd.com].

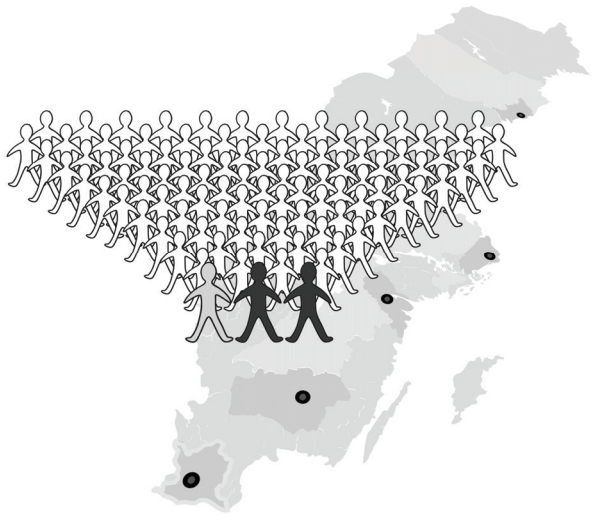
Serological markers facilitate the screening and diagnosis of celiac disease; however a small intestinal biopsy is still necessary for disease ascertainment. Based on the multi-centre case-referent study, we are evaluating the most promising serological markers and also considering the potential role of humane leukocyte antigen typing.

In all populations approached for celiac disease screening it has become evident that a considerable number of cases remain undetected, however to a varying extent. Therefore it is debated whether mass screening should be recommended. We are contributing to this debate with further scientific evidence from a Swedish multi centre screening programme entitled ETICS; Exploring the Iceberg of Celiacs in Sweden [www.etics.se]. The programme includes 12-year old children born during the epidemic and post-epidemic years, respectively, to compare the prevalence in these cohorts of both symptomatic and previously undiagnosed celiac disease. This will also

further clarify whether primary prevention of celiac disease is possible. The first part of the field phase has been completed, involving 10 041 invited children out of which 7 567 participated. An unexpectedly high prevalence of celiac disease (3%) was revealed, out of which 2/3 of cases were previously undiagnosed. Sub-studies are ongoing evaluating consequences of such a mass screening for both individual and society, including a health economic evaluation. In doing so both quantitative and qualitative research approaches are used. General celiac disease screening among adults also needs to be evaluated, and the Västerbotten Intervention Project (VIP) would be an excellent framework for such an effort.

Moreover, we are represented in the steering committee of a growing European platform for research on prevention and treatment of celiac disease by integrating basic scientific knowledge in clinical applications and the food industry [www.cdeussa.com]. A position report on recommendations for future research was recently finalised, and a monthly newsletter is widely distributed among the celiac disease research community.

Contact: Anneli Ivarsson



Celiac disease revealed in 3% of Swedish 12-year-olds, with 2/3 of cases undiagnosed prior to screening.

The occupational and living environment

Indoor pollution in Ethiopia

The effect of ***indoor exposure to biomass smoke*** on children's risk of acute respiratory infections (ARI) is the topic of a study performed in collaboration with the Department of Community Health, Addis Ababa University, Ethiopia. Indoor air pollution has been suspected to contribute to the high ARI mortality rates in many developing countries, where biomass fuels and agricultural wastes are burned in open, non-vented fireplaces. The smallest children in particular, whose ARI mortality is the highest, can have extremely high exposure to cooking smoke in the home, since they spend more of their time with the mother and are often carried on her back while she is cooking. The study setting is the Butajira area in central Ethiopia, where the continuous demographic surveillance system of the Butajira Rural Health Programme (BRHP) provides an infrastructure for research. The study is a prospective case-referent study of ARI morbidity, with exposure assessment carried out in cycles for all households with children less than five years throughout the eighteen month follow-up period. Nitrogen dioxide (NO_2) is used as a marker for smoke and measured by passive sampling. From the second quarter of 2000, pollution samples were collected every three months from each of approximately 3,300 households. Samples were brought to Addis Ababa for analysis within two weeks of sampling and data collection was completed in April 2002. Approximately 1,500 cases of pneumonia (among the under fives) have been found and treated in the Health Posts. Information about the pre-diagnosis period of the cases and approximately 4,000 incident referents have been collected from their mothers. Quarterly interviews with all mothers of children under five throughout the follow-up period have generated longitudinal information on exposure and a number of background factors relevant to the study. At the same time, samples of NO_2 have been taken from the indoor environment and, in all, nearly 19,000 samples have been analysed in the laboratory in Addis Ababa. Data entry was completed in 2005. Data cleaning of this huge dataset took

up much of 2006, leading to complete material to be used for the first of at least six articles in two PhD theses. Two articles were prepared during 2007, one submitted.

Contact: Anders Emmelin

Gender and health

Does gender equality in working life lead to economic growth trough better health and less sick leave?

Gender equality in a Swedish context:

- In Sweden, gender equality relates to equal opportunities, rights and responsibilities for men and women, for example, in work, which enables economic independence, in the care of children and the home, and in participation in politics, unions and other social activities;
- Since 1992, there has been a government Act on equality between women and men;
- This Act mainly relates to working life – all companies with more than 10 employees must have a plan for gender equality;
- There is an "office of the equal opportunities- ombudsman" who's job it is to monitor the implementation of the Act.

The initial hypotheses for this research are that an unequal gender system affects both men's and women's health in a negative sense, and that addressing this imbalance would lead to improvements for both sexes. It is also hypothesized that the current gender system depresses the production of goods and services, and a more gender equal society could positively influence economic growth.

The first part of this research involves a register study built upon data from national databases. The register study comprises 11000 companies and their employees. The data collected are position in the company, income, sick leave and parental leave. The subsequent step will be to administer a questionnaire to 3000 individuals selected from the companies.

The questionnaire will explore the division of unpaid household work, self-rated health and self-rated gender equality.

It is necessary to incorporate both the paid and the unpaid work in the analyses in order to get a complete picture of workload and stress in relation to health.

Contact: Ann Öhman

Sick building syndrome in Sweden

The Office Illness Project in Northern Sweden was finalised in 1994. It comprised a questionnaire study of the Sick Building Syndrome (SBS) and skin symptoms related to Video Display Terminal (VDT) work among 6000 office workers. Using this study as a base, two case-referent studies were conducted – one focusing on SBS and another on skin symptoms in VDT users. Taking potential confounding factors such as gender, age and psychosocial work-load into account, there was an exposure-response relation between risk of SBS symptoms and ventilation rate. This gave strong support to the hypothesis that SBS-symptoms are caused by exposure to airborne chemicals.

Continuing research in this area is focusing on chemical risk factors of SBS symptoms and on the natural history of SBS symptoms and VDT related skin symptoms.

A new project focusing on chemical exposure is soon to be finalised. In order to get information for the planning of a new case-referent study, a pre-study was conducted to find the variability in chemical exposure in office workers. The results showed that for most chemicals the variability is greater between persons than among buildings and that men and women have different exposure patterns. Another prerequisite for the case-referent study was to find the optimal adsorbent for sampling indoor airborne volatile organic compounds. An analysis using partial least squares discriminant analysis (PLS-DA) identified which adsorbent best discriminated cases from referents. Based on chemical data from the best adsorbent, the case-referent study is now being analysed in collaboration with The Swedish Polytechnic, Vasa, Finland. Researcher Bo Glas will present his PhD thesis in 2009.

With the aim of developing better care and action programmes for patients with the above "environmental illnesses," our studies focus on personal, psychosocial and environmental prognostic factors. We are working in an interdisciplinary project with colleagues from Occupational and Environmental Medicine, Dermatology & Venereology, the Deptartment of Sociology, the Department of Psychology, Family Medicine and the Deptartment of Odontology, all at Umeå University.

For comparison, a similar follow-up study of patients with a well-recognised environmental illness, hand eczema, has been undertaken. Follow-up results from patients with "hypersensitivity to electricity" have shown that - there is a large subgroup of patients with "VDT related skin symptoms" and with quite normal findings concerning self-image and coping resources The medical and social prognosis in this group is favourable in comparison with a smaller subgroup of patients with perceived "hypersensitivity to electricity". This subgroup has a larger number of symptoms that they attribute to electricity in general. In particular women in this group have deviant findings with regard to self-image and coping resources.

Our follow-up studies on patients with SBS shows that the level and severity of symptoms decrease over time, although nearly half of the patients claimed that symptoms were more or less unchanged after 7 years or more. Twenty-five percent of the patients were on the sick list, and twenty percent drew a disability pension due to SBS symptoms at follow-up. The risk of having no work capabilities at follow-up was significantly increased if the time from debut of symptoms to the first hospital or clinic visit was more than one year. The medical and social prognosis in this group is in between results from patients with "VDT-related skin symptoms" and patients with "hypersensitivity to electricity". Ninety-two percent of the patients at follow-up were woman and eight percent were men.

Contact: Berit Edvardsson

Nickel allergy

Nickel allergy is a common cause of hand eczema and is usually induced by ear piercing. Previous findings indicate that straightening irregular teeth with metal braces containing nickel may prevent the induction of nickel allergy.

A case-referent study of nickel-sensitised teenagers and referents has been undertaken in Umeå and Örebro. Nickel allergy was verified by testing, and previous use of braces and skin piercing was recorded. Results show that the prevalence of ear piercing among girls has not increased over recent decades. Among boys, however, there is a marked increase. Piercing of locales other than the ear lobes has increased in both girls and boys. The prevalence of nickel allergy in our population is 15% among girls and 4% among boys. Our findings support that dental braces may induce tolerance to nickel. Two articles are published, one is submitted and one is in manuscript. Researcher Ronny Fors defended his PhD thesis in May 2008.

Contact: Berndt Stenberg

The ultimate goal – prevention of ill health

Social patterning of prevention

In order to reduce the high incidence of cardiovascular diseases and diabetes mellitus, the County Council of Västerbotten decided to start an intervention programme in 1985. This programme has now been running for 24 years and at the end of year 2008, almost 120 000 health screenings have been performed. Approximately 30000 people have so far participated in a 10-year

follow-up. The VIP programme was designed to combine a population strategy with efforts to meet, examine and give individual advice to people when they were 40, 50 and 60 years of age. Using the primary care system as a partner, the programme conducted systematic risk-factor screening and offered counselling by its family medicine providers.

Previous studies have confirmed that there was no social selection bias when comparing participants and non-participants. During the last decade, VIP data have been actively used for epidemiological research, development of new preventive methods in primary care, health economic evaluations, and county council health planning purposes.

With regard to primary care oriented epidemiological research, focus has been on developing new preventive methods to integrate prevention into everyday practice. Four parallel research projects are addressing these issues:

- One is focusing on early predictors for type 2 diabetes, using VIP data and primary care records. Results show that individuals who are at high risk for future type 2 diabetes can be identified by measurements of three simple clinical variables: BMI; fasting glucose; and glycated haemoglobin (HbA1c). This study has been extended to describe a model of Metabolic Syndrome (MetSy) and also to analyse the prevalence of MetSy in VIP Panels. Results indicate that snus-users have an increased risk of developing MetSy, and in particular obesity and high triglycerides, are associated with high snus consumption.
- The second research project is attempting to increase knowledge about long tem tobacco use in a middle aged Swedish population, and especially how to they manage to quit smoking and the role of snus in that process. Preliminary data indicate that the role of moist snuff might be less important than tobacco producers' claim. A third project aims to develop a risk equation, predicting the 5- and 10-year risk of developing CVD (stroke or AMI), when taking both traditional and social factors into consideration. The analysis comparing the SCORE risk prediction and actual outcome in Västerbotten County indicates the CVD mortality risk to be significantly lower in the Västerbotten population, implying that guidelines might have to be adjusted accordingly.
- A fourth project focuses on the impending obesity epidemics that are reported worldwide. Instead of looking at the obese population and studying possible strategies to reduce weight, we will focus on identifying and characterising individuals who manage to maintain weight in middle-age over a 10 year period. We focus on the middle-aged individuals who neither gained nor lost weight in their adult lives, the so called "primary weight maintainers". According to a previous study we conclude that there is a need to broaden the educational efforts to include individuals who have previously not being regarded as high-risk individuals, i.e. the young, the healthy and the lean. Based on a qualitative study where both maintainers and gainers have beend interviewed regarding experiences and perceptions on weight control. These data serve as basis for a more comprehensive quantitative study, where a sample of the VIP population will be addressed in spring 2009.

In 2008, a Pilot study at 3 health centers, also invited 70-year-olds and 94% of the invited participated. The Pilot will be evaluated in 2009 and after that the Västerbotten County Council will consider if the 70-year examination also will be included in the VIP program

Since the mid 1990s, the Northern Lights Working Group research collaboration has been developed between our department and Bassett Research Institute, Cooperstown, New York and the Department of Preventive and Community Medicine, University of Rochester, New York. The collaboration was initially focused on comparing small-scale community interventions in Sweden and the US. The main purpose of this collaboration is to explore the possibility of learning more by comparing programme outcomes between different countries. The collaboration has continued as an inter-country comparison regarding self-reported health and CVD risk factors, and in a 10-year study comparing obesity development in a US and a Northern Sweden panel. As a continuation of this work we now join forces with regard to weight maintenance research. Several worhshops has taken place during 2008 to prepare a research platform enabling similar studies on weight maintainers in both Sweden and the US in 2009.

We are involved in the MONICA-project, under the auspices of WHO, for the systematic monitoring of cardiovascular diseases. A follow-up of all persons screened in 1986, 1990 and 1994 was carried out during 1999, comprising more than 5000 individuals. Together with the 2004 cross section, there have now been a series of five repeated random cross-sectional studies and three panels (1986/99, 1990/99 and 1994/99), with possibilities to differentiate between cohorts and to identify cardiovascular risk indicators. A sixth MONICA cross section study will take place 2009. The follow-up of individuals participating in the previous MONICA cross-sectional surveys will allow for further analysis of the role of perceived health in predicting future risk factor load, and to study the interaction with socio-economic factors.

Contact: Lars Weinehall

The Vinnvård program: Transforming knowledge into practice

One of the most difficult problems that many health service providers deal with is the insufficient links between theoretical knowledge and practical implementation. Balancing multiple interests from politicians, citizens, patients and the different professions is complicated and the principal conflict between specialization and integration for large organizational systems is well-known.

The overall objective with the Vinnvård Research Program is to clarify how organisations acting within health service can simultaneously handle demands of efficiency, safety and availability AND demands of flexibility, context dependent problem solving and learning in organisational systems which are today characterized by hierarchical and centralistic structures.

The aim is to improve the understanding of how quality assured knowledge can become workplace practice and also how locally established best practice can become widespread and recognized knowledge in complex health service organisations.

Researchers from different disciplines – epidemiology, medicine, pediatric, occupational therapy, sociology, quality management and psychology – at Umeå University, Karolinska Institut in Stockholm, and Luleå University of Technology, are working together in the Vinnvård Project.

Memeologen, a development unit within the Västerbotten County Council is assigned the task of developing a new approach to organizational improvement, and has for several years has been developing and implementing a change approach in line with concepts of organisational learning, quality management, self organising and system theory. Memeologen works with change teams of nurses, doctors, medical secretaries and other staff at specific units and clinics. In addition to this organisational and managerial support structures for planning, communication, decision making, measurement and feedback have been developed. The Memeologen change approach has so far been successfully spread

from local pilot units to some larger parts of the health care system.

The Vinnvård Research Group focus 2008-2010 on two case studies:

- The spread of the Memeologen approach to learning and improvement to the specialist healthcare of Västerbotten County Council.

- The use of the Memeologen approach to learning and improvement in the Salut Programme, a health-promoting program for children and young people where researchers, process consultants and practitioners cooperate across the organizational borders within the county council and between the county council and the involved municipalities. 2008 has been an intense data collection year.

Contact: Lars Weinehall and Monica Nyström

Nationwide diabetes registration

In 1977, a nationwide incident case register covering childhood diabetes in the age group 0-14 years was set up in Sweden. The register is co-ordinated and continuously validated by the Division of Paediatrics in collaboration with us. It forms the basis for population-based studies for the identification of genetic, immunological and environmental risk determinants of the disease.

In 1983, a similar nationwide register on diabetes for the age group 15-34 years was initiated – the Diabetes Incidence Study in Sweden (DISS). New cases of type 1 and type 2 diabetes, and secondary diabetes mellitus, as well as unclassified types of diabetes, are reported by all paediatric, medical and endocrinology departments and public health centres in the country. By December 2008, 10200 cases (approximately 400/year) had been reported, of which 73% were type 1 diabetes, 17% type 2 diabetes, 1.3% secondary diabetes and the remaining 9.1% were unclassified.

Through record linkage between DISS and the nationwide Cause of Death Registry it has been possible to identify deaths among the patients and get information on cause of death. With an average follow-up of 8.5 years, resulting in 59,231 person-years, there were 159 deaths (Waernbaum et al 2006). Diabetes was reported as the underlying cause of death in 51 cases (32%), and as a contributing cause of death in another 42 cases (26%). The expected number of deaths based on the Swedish population was 65.1, thus the standardised mortality ratio (SMR) was 2.4.

The prevalence of complications was followed up in the 1987-88 cohort. Out of 806 cases reported to DISS in 1987-88, the prevalence of retinopathy could be assessed in 627 cases and, out of these, retinal photographs were available in 523 cases. The prevalence of retinopathy 9 years after diagnosis was 39% (mild 33%, moderate non-proliferative 4.8% and proliferative 1.8%). It was possible to assess nephropathy in 469 cases and the prevalence was 6.6%. Compared with patients with type 1 diabetes, those with type 2 diabetes tended to have an increased risk of renal involvement. A new follow-up is ongoing.

Gender differences and temporal variation in the incidence of type 1 diabetes was studied in 8012 cases diagnosed 1983-2002. The mean annual incidence rate was 16.4/100,000 in men and 8.9/100,000 in women. The incidence decreased slowly by increasing age but was in all age groups higher in men, yielding an overall male/female ratio of 1.8. A seasonal pattern with significantly higher incidence during January-March and lower during May-July was seen in both genders (*Östman et al 2008).*

Contact: Lennarth Nyström

Screening for breast cancer

Few secondary interventions have been as carefully evaluated, and perhaps therefore as questioned, as mammography screening. An overview of the four randomised controlled trials (RCTs) that have been performed in Sweden was conducted by our department in order to evaluate the benefits of mammography screening in relation to breast cancer mortality. The four cohorts, consisting of 282,777 women aged 40-74 years at randomisation, have been followed-up three times, through 1989, 1993 and 1996, and a final follow-up through 2007 is ongoing. The last follow-up through 1996

showed that, with a median trial time of 6.5 years and a median follow-up time of 15.8 years, there was a significant 21% reduction of breast cancer mortality in the group invited for mammography screening.

New approaches have been applied to be able to evaluate whether the nationwide service-screening programme is as effective as indicated by the RCTs. In collaboration with the Oncology Centres in Umeå and Stockholm, the effectiveness of the service-screening programme in the age groups 40-49, 50-69 and 70-74 years has been evaluated. As all counties in Sweden invite women 50-69 years the evaluation of the efficacy in that age group had to be made between counties that started service-screening early (1986-87) and counties starting late (1993 onwards). With a mean individual follow-up time of 8.4 years, the non-significant reduction in breast cancer mortality was estimated at 16%. The efficacy of also inviting women 70-74 years to screening was estimated at 24% using excess mortality. With a mean follow-up of 10 years, the reduction in the breast cancer was estimated at 24%.

In collaboration with the Oncologic Centre in Umeå, Uppsala and Stockholm and researchers from UK and US we applied new analytic methods for the evaluation of incidence-based breast cancer mortality. Using individual screening history data representing approximately 45% of Swedish women (screening history for 542,187 women in the pre-screening and 566,423 women in the screening epochs) we were able to estimate the population size that needs to be screened in order to save one life in nine counties in Sweden. Regardless of year of diagnosis, there were a total of 6231 deaths due to breast cancer in the period of study as a whole. Of these, 4778 were incidence-based deaths in the two epochs, i.e. death among cases diagnosed within either the pre-screening or screening period. Data were analysed using Poisson regression and adjusted, when necessary, for self-selection bias, contemporaneous changes in incidence, and changes in mortality independent of screening. There was a significant 45% reduction in incidence-based breast cancer mortality in the pre-screening epoch (relative risk, 0.55; 95% CI: 0.51-0.59). After adjusting for self-selection bias, there was still a significant 43% reduction in incidence-based breast cancer mortality associated with screening (relative risk, 0.57; 95% CI: 0.53-0.62*) (Duffy et al 2007, 2 publ).*

Today there is an agreement that mammography screening significantly reduces the breast cancer mortality in women 50-69 years. Therefore the focus today is to estimate the effect of inviting women 40-49 years and two studies using different approaches will be published in 2010.

Contact: Lennarth Nyström

Effectiveness of treatment of hypertension

In collaboration with Family Medicine, Umeå University we are in a longitudinal study comparing the population in the counties of Västerbotten and Sörmland regarding hypertension control and stroke incidence to evaluate whether the benefits from treatment of hypertension from the randomised controlled trials be achieved in clinical practice?

In the first phase the project aims at improving the blood pressure control among patients with hypertension in the county of Västerbotten and to improve the ability to detect individuals with cardiovascular risk and hypertension and treat them properly.

In the second phase the aim is to evaluate whether good treatment control of patients with a hypertension diagnosis can be reflected in a reduced incidence and mortality of stroke at population level in Västerbotten (intervention county) in comparison with Sörmland (control county). In the intervention area a computerized decision support system (DSS) for selecting and combining blood pressure lowering drugs according to the hypertension guidelines was introduced at all health centers an physicians were trained to use the program and the importance of controlling high blood pressure was repeatedly emphasized.

The interim analysis shows that the process outcomes, percent of patients with a hypertension diagnosis (i.e. prevalence of hypertension) and percent of patients with

controlled blood pressure are increasing. That the percent of patients with a hypertension diagnosis among patients with elevated blood pressure increases is important as having a diagnosis increases the likelihood of getting properly treated. For evaluation of the main outcome measures stroke incidence and stroke mortality a longer follow up is needed. The trends of sales of antihypertensive drugs shows that we are on the right track but also indicates the need for an update of the Decision Support System as well as reinforcement of the message to the health staff on the importance of controlling the blood pressure.

Contact: Lennarth Nyström

Personal health documents in the county of Dalarna

Personal health documents have been available since at least the 1940s. Such records focus either on disease and cure, such as traditional medical records, or health and prevention, such as antenatal records. Personal health documents have been used worldwide in antenatal and child care. The purpose of such records has been manifold, but the most interesting is perhaps patient empowerment. Controlled studies in antenatal care have shown positive results regarding empowerment variables. There are few studies examining such records used by adolescents, or non-pregnant adults.

In the county of Dalarna, Sweden, a personal health document, "My Book About Health", has been developed, targeting the adult population. Effects on behavioural change have been reported following distribution at primary health centres, at work-sites, and by mail. The cost-effectiveness and feasibility of distribution have been compared, and community health nurses have been interviewed about their experiences. A version of the document can be found at http://www.ltdalarna.se/minbokomhalsa.

A health document for adolescents, 12 to 16 years of age, has also been developed. It consists of a folder with seven different booklets, named "VIP – Very Important Person". A school-based controlled study started during 2003, and the feasibility of the intervention have been described. Effects of the intervention on empowerment and health are being analysed. Parts of the health document can be viewed at http://www.ltdalarna.se/vip.

Contact: Lars Jerdén

Stress-related problems among children and young people

Self-reported stress-related, psychosomatic or "socio-somatic" problems among children and young people, especially teenage girls, are increasing in Sweden. Many of the girls also report negative body image and eating disturbances. Biological, emotional, socio-cultural and gendered processes on the individual, group and societal level can be involved. However, there is a lack of research in this area. There is a need for both epidemiological and longitudinal studies, as well as for more explorative qualitative studies that "give voice" to young people, or studies that discuss the problems in relation to theoretical frameworks. There are also few studies on health promotion and preventive models for use in schools or School Health and Youth Health Centres for teenage girls and young women.

In our research project we find it important to listen to and to involve the girls themselves in an interactive research process using individual interviews, focus group discussions, diaries, questionnaires and participant observations. We also apply an explorative and theoretical research approach in order to discuss questions such as "why girls?" and relations between processes such as "doing gender" and "doing health". Accordingly, we are interested in socio-cultural perspectives on body image, well-being and health – the embodiment of social conditions, relations and processes. For this purpose we have constructed a theoretical framework consisting of a combination of theories from body-sociology, phenomenological physiotherapy, gender science, modern stress and trauma research, and health promotion.

The aim of this study is two-fold: 1) to increase knowledge about teenage girls'/young women's experiences and perceptions of stress-related health

problems, including their body-experiences; 2) to develop models for health promotion and stress-prevention within School Health and the Youth Health Centre in Umeå.

This is a collaborative research project between the School Health Organisation in Umeå Municipality, The County Council in Västerbotten and Umeå University.

Contact: Maria Wiklund

Nutritional status of adolescents in Cameroon, Africa: data on a neglected dimension of health.

Adolescents represent 50% of the population in Cameroon and have been neglected especially when it comes to nutrition. During adolescence a good nutrition is important not only for good health but also for attendance and performance at school. Information on dietary intake of adolescents is important for assessing and monitoring the growing problem of chronic diseases in Cameroon as well as infectious diseases. The aim of the present study is to assess food habits, nutrient intake and anthropometry of adolescents in Cameroon according to socioeconomic status (SES), and to investigate adolescents food perception by using dietary questionnaires, anthropometry, and qualitative questionnaire.

As results we found that frequencies of consumption of meat, vegetables, cereals, milk products, and junk foods were significantly higher in urban than rural adolescents. Frequency of in-between meals was higher in urban than rural adolescents. Arm muscle area and waist/hip ratio were significantly higher in rural adolescents compared to urban adolescents. Adolescents with poor SES) were more likely to be stunted than adolescents with rich and intermediate SES. Girls were more likely to be overweight, but less likely to be stunted and underweight than boys. Factors influencing adolescents' food behavior from the rural area were to live, health and poverty. Among adolescents from the urban poor area health, beauty and lack of money were factors. Among adolescents from the urban rich area pleasure and beauty" emerged.

Contact: Léonie Dapi Nzefa

Health promoting health services

One of the eleven targets in the national public health policy is "A health and medical service that more actively promotes good health". Improved population health must be an explicit goal of the health services. The basic idea is that health care will be permeated with a health promoting and preventative perspective, and this way of thinking will become a natural part of all care and treatment. This orientation towards health poses a challenge to the health care service to form strategies that develop the health-promoting role. The aim of the research project is to study the opinions of health care professionals, in order to get their views on concepts of health and health promotion, and to develop greater understanding of the obstacles and opportunities for health-promotion in practice. The methodology is both qualitative and quantitative.

Contact: Helene Johansson

Social capital for Health Promotion

During the last decade "social capital" has become an attractive concept within public health research. The concept is defined in several ways, but within public health the definition by Robert Putnam has proven to be particularly useful. He defines social capital consists as "social networks and the norms of reciprocity and trustworthiness that arise from them". Social capital draws attention to the social determinants of health, and is mainly used to explain social inequality in health. However, knowledge about the role of social capital in health promotion is still lacking. The overall objective of this research project is to investigate the prerequisites, barriers and prospects for using social capital as a resource for community-based health interventions. Two studies have been performed, utilising data from an explorative qualitative case study in a small community in northern Sweden. The first aimed to describe existing social capital in a case community with high civic engagement, to understand how Putnam's conceptualisation

can serve as an analytical frame in understanding high civic engagement, and to discuss how sociological views of social capital may add to an understanding of the role of social capital for community health promotion. The second study aimed to develop an understanding of the mechanisms that are crucial for mobilising social capital at the community level. The third and the fourth study are based on a "social capital survey", distributed to 15,000 individuals in northern Sweden. One ongoing study investigates the distribution of different forms of social capital for men and women, and analyzes how access to these forms of social capital influence self-rated health for men and women. The forth study will investigate the distribution of social capital on neighbourhood level, and analyze the associations between different forms of neighbourhood level social capital and self-rated health.

Contact: Malin Ericsson

Ageing and Living Conditions

Increasing magnitude and awareness of the growing proportion of elderly people raises questions on how living conditions are affected for both the old and the young. Is our society ready to accommodate the growing proportion of elderly people? Will a greater proportion of elderly people be seen as a burden or as an asset to society? Can insights from changes that have occurred in Sweden pave the way for better handling of forthcoming changes in other countries? What can we learn from experiences in other countries and from past experiences? Ageing and its consequences are crucial factors in relation to future livings conditions in Sweden, Europe and throughout the world.

This project is characterised by interdisciplinary research addressing the interconnections between ageing, health and living conditions of the elderly – the opportunities of successful ageing.

The relationships between these research themes are influenced by processes at the individual level (biological and cognitive ageing), the population level (demographic, social and economic conditions) and the socio-cultural level (images and constructions of ageing and the old). The research is part of a collaboration between social, behavioural, medical and humanistic sciences, bridging research environments from three faculties.

This project includes quantitative as well as qualitative research approaches and joins methodological competences from different disciplines. The data sources, including the several world-unique, mainly longitudinal, databases (covering more than 400 years) developed and located in Umeå are:

- DDB – including the largest historical population database in Europe;
- BETULA - longitudinal data on cognition, health and ageing, 4500 individuals, 1988 to date;
- ASTRID – individual spatial and social-economic data for all Swedes, 1960 – 2003;
- INDEPTH - health data from various third world field sites;
- VIP – cross-sections and panels (95.000), health and socio-economic data, 1985 to date;
- DAUM – documented historical interviews with the elderly.

Due to the uniqueness and variety of data sources, this project brings together research on contemporary Sweden with studies on historical data and third world contexts, and enables the comparative analysis from a variety of time-space contexts, including indigenous sami communities.

The aim is to develop interdisciplinary research focusing on ageing and living

conditions in different time-space contexts based on three overall research questions:

1. How is population ageing influenced by demographic processes?
2. How is participation of the elderly in society affected by their health and cognitive function as well as by societal demands and values?
3. What are the determinants of successful ageing - in terms of social, economic and health factors - for men and women?

One further aim is to develop new perspectives by strengthening the comparative analyses, including empirical investigation in different geographical, historical and cultural contexts, e.g. urban and rural areas in historical and contemporary Sweden, Sámi communities, immigrant groups and communities in developing countries today. In these different contexts, the intersections between age, ethnicity and gender will be scrutinised.

Contact: Lars Lindholm

Multi-disciplinary gender research

Several of the projects presented in this chapter have a gender perspective (For specific projects, see above). Gender research, or public health research with a gender perspective, has gradually become an important and integral part of the research that is being conducted within our division. That in turn has its roots in long-running development of gender research at Umeå University. Gender research has existed for almost 30 years at the university and is now profiled among the university's central research strategies for the years 2004-2007. One of the most recent developments is the formation of an institutional framework for gender research – Umeå Advanced Gender Studies (UAGS). UAGS embraces all faculties at the university and is therefore broad and multi-disciplinary. In 2006, UAGS was appointed centre of research excellence by the Swedish Research Council and received a considerable research grant. In 2009 Umeå Centre for Gender Studies was established and we collaborate with them in the research programme Challenging Gender, awarded Centre for Gender Excellence by the Swedish Research Council.

Gender based violence research and networking

Within the UAGS framework, public health researchers from our division engage in research on gendered health issues as well as gender-based violence. The area of gender-based violence harbours research on violence against women, within a range of disciplinary milieus, including social sciences, education, arts and medicine. This research is characterised by interdisciplinary approaches and, in some cases, close relationships with policy makers. This research is chaired from our division. Some projects focus on legal, economic and social consequences of violence in a number of different settings. Other projects study constructions of male perpetrators, female victims, and violence in legal texts, as well as the health effects of violence, within Sweden as well as in several other countries. Some challenges within this area are: the risk of reproducing notions of traditional gender power structures; how to theorise and study violence against women in different ethnic communities; how to theorise violence against non-heterosexual persons, in intimate relations or as hate crimes.

Epidemiology and Public Health Sciences is part of an international research network for developing research strategies and research methodologies on violence against women (VAW). The network is a collaboration with Linköping and Uppsala universities. Five senior researchers and five PhD students from the division are members of the network. The network had its first international workshop in Uppsala. Researchers from eight countries participated. Researchers from the division participate in the multi-disciplinary theme Challenging Violence, which is part of the research programme Challening Gender. The theme is steered by Ann Öhman.

Centre for gender studies at the Faculty of Medicine

The centre is a platform for gender researchers as well as for other researchers who are interested in gender perspectives on health and disease. Researchers from our division have been actively engaged in forming the centre and are part of the steering committee. The aim of the centre is to strengthening gender research at the medical faculty through a multi-disciplinary platform.

Finally, a contributor to the gender research milieu at our division is The National Graduate School of Gender Studies, hosted by Umeå University together with Mid Sweden University, the University of Kalmar and the University of Gävle as partners. At present, one of the PhD students at Epidemiology and Public Health Sciences are enrolled in the national graduate school.

Contact: Ann Öhman

3. Training at Umeå International School of Public Health

An integral component of the development of the international collaborations has been the International Public Health training, starting from ad hoc training courses and workshops that formed a springboard for the research projects. What started as short courses in epidemiological methods has grown into a full MPH programme taught in English and with major recruitment from abroad, mainly from developing countries. Since 2001, this Public Health programme has had the status of an International School within the university. With its strong research orientation, the programme has retained its role as a channel into research training.

Master of Public Health Programme

Following the Bologna process, the Umeå MPH programme now is a two-year programme, 120 ECTS (European Credit Transfer and Accumulation System). Of the four semesters, three are dedicated to course work (90 ECTS) and one (30 ECTS) to thesis research work.

Students can follow one of three profiles: Epidemiology, Health Economics and Social Theory for Public Health, respectively. All three profiles share a common core of course work, in all 45 ECTS. In most cases, common core courses should be entirely finished within the first year.

Besides the common core, each profile includes compulsory profile courses, a total of 30 ECTS. All students also take 15 ECTS of elective courses, which can be either courses from other profiles or courses from other departments or universities.

All Profiles
Common core courses (45 ECTS)
Global Public Health – an introduction
Biostatistics, part 1
Epidemiology, part 1
Epidemiology, part 2
Qualitative Methodology 1
Global Public Health – policy and practice

We encourage students to identify and plan their thesis topic in advance, if possible in collaboration with their employers or with other organisations in their home country. The process of thesis planning is initiated in the first semester, but not finalised until a student has completed all the research methods courses included in the common core of the programme.

Depending on choice of profile and electives, the thesis work can either be done full time in the last semester or as part time research during a longer period. Defence of the thesis is always at the end of the second year. Most of the compulsory courses should be completed before beginning the actual research work, but planning should start as early as possible.

The Epidemiology Profile
Common core courses (45 ECTS)
Profile courses (30 ECTS)
Advanced methods in Epidemiology
Biostatistics, part 2
Evaluation in Public Health
Public Health Informatics or Social Epidemiology or Chronic Diseases Epidemiology
Elective courses (15 ECTS)
Public Health courses from UISPH or elsewhere
Thesis (30 ECTS)

The Health Economics Profile
Common core courses (45 ECTS)
Profile courses (30 ECTS)
Advanced Topics in Health Economic Evaluation Methods
Economic Analysis of Health and Health Care
Evaluation in Public Health
Health Economic Evaluation Methods
Elective courses (15 ECTS)
Public Health courses from UISPH or elsewhere
Thesis (30 ECTS)

The Social Theory for Public Health Profile
Common core courses (45 ECTS)
Profile courses (30 ECTS)
Social Theory in Public Health and Medicine 1
Social Theory in Public Health and Medicine 2
Qualitative Methodology 2
Social Epidemiology
Elective courses (15 ECTS)
Public Health courses from UISPH or elsewhere
Thesis (30 ECTS)

Experience from the previous year had taught us to accept more than 80 applicants in order to have approximately 40 new entrants when the academic year 2008-09 began. However, this time the process of giving students'residence permits to the persons that were accepted was delayed, partly by turbulence in the exchange rate from USD to SEK.. This was an unexpected example of how macroeconomics interfere in the lives of us all; applicants for residence permits must show that they have a certain amount of money, to cover their subsistence in Sweden. If this was true on the day the application was handed in, it might not be true when the Migration authority finally came to review the application and so the application was rejected! out of 83 qualified applicants that were accepted, 28 finally came to take up their studies in Umeå, several of them after considerable delay.

UMEÅ INTERNATIONAL SCHOOL OF PUBLIC HEALTH

Sources of Master of Public Health students 1991-2008

Summer course: Epidemiology and Field Research Methods

Since 1988 our department has offered a research methodology course in Epidemiology and Field Research Methods. Financial support from Sida/SAREC has made it possible for 12 research students/researchers within different bilateral research collaborations to participate in the course, held in June each year.

The course has become an important research training base for health researchers, health planners and practitioners from the global network that Sweden is part of. In 2008, we received more than 100 applications for the 24 available course places. We strive for an international and multidisciplinary attendance where the participants' own experiences are part of the curriculum. Quantitative and qualitative methodologies are practically applied to analyse authentic data from our research collaborations. The course is given high priority and the team of teachers/facilitators always includes colleagues from the bilateral collaborations out of which the data material emanates.

We admitted 24 participants for the summer course in 2008. Four of the participants came from Sweden. Other countries represented were, Denmark, Ethiopia, India, Indonesia, Italy, Japan, Israel, Kenya, Nepal, Myanmar, Nicaragua, Palestine, South Africa, Sudan, Tanzania, Uganda and Vietnam.

Research training

We offer degrees in four PhD subjects Global Health, *Epidemiology and Public Health*, *Public Health* and *Family Medicine and Epidemiology*.

Presently (Dec 31st, 2008) 47 research students are registered at the department, 21 men and 26 women (Table 5). Twenty eight PhD students have been recruited within international research collaborations, while 18 are Swedish research students. In the period 1987 – 2008 55 PhD theses and 7 licentiate theses were defended at the department. Several of the research students at the department are also affiliated with another department, e.g. a clinical department, or to a university in another country. Corresponding representation of two or more departments is often found among the advisors to the research students.

Our unit is responsible for a major part of the basic research-training course of the Medical Faculty, and since 1997 we have also offered an advanced course in applied biostatistics with computer applications. Research students often also use the yearly summer course and the courses included in the Master of Public Health programme as part of their research-training.

Swedish Research School for Public Health

In 2008 Umeå University and Karolinska Institutet launched the Swedish Research School for Global Health with financial support from the Swedish Research Council. The two institutions have different strengths within the area of global health research and the research school will take advantage of the different capacities and complementary competences. The main aim is to seek the Swedish Research Council's support for development and strengthening of capacity for research training in global health, through multi-disciplinary collaboration in education, research and training. The specific aims of the research school are to provide courses and seminars in global health on a doctoral level, to secure a base of new generations of researchers in global health and to provide a creative environment for students and teachers. The courses, already existing and new proposed ones form the backbone of the research school. Seminars and special workshops complement the courses and facilitate the process of networking. Twenty two students were admitted to the research school in the first intake in May 2008.

Single courses

All courses within the MPH programme can be taken as separate courses by students not wishing to take the whole MPH degree. Priority is given to those studying for the degree, but a number of non-programme students are always accepted as well. This is especially true with regards to the research method oriented courses, such as *Qualitative Methodology, Epidemiology* and *Biostatistics,* as we see it as essential that these subjects are accessible to research students in adjoining disciplines.

Biomedical programme

During the first semester of the 'Biomedical programme', our unit is responsible for a 5-point course in *Epidemiology and biostatistics*. In the autumn 2008 course, 38 students participated.

Table 4. Seminars at the department 2008.

Jan	**Anders Emmelin** – Midterm seminar. Public health beyond the crossroads – the failure to apply well-established knowledge to the most vulnerable. The case of children in Ethiopia
	Mariano Salazar – Phd proposal. Child outcomes, protective and risk factors for intimate partner violence in Nicaragua: a cohort study
	Berit Edvardsson – Midterm seminar. Varför kan en del människor med sjuka-hus-sjuka och kroniska symtom arbeta och andra inte? En studie av prognosfaktorer med inriktning på utvecklandet av en handlingsmodell för miljörelaterade syndrom
	Therese Kardakis, FHI. Forskningsidé presenteras: Reorienting health service to become more health promoting - an organizational perspective
Feb	**Rana Khatib**. Health situation and public health research in Palestine
	Lars Lindholm, Miguel San Sebastian, Walter Flores, Anna-Karin Hurtig, Curt Löfgren. Global health seminar serie - Health system research
	Fikru Tesfaye – Dissertation. Epidemiology of cardiovascular disease risk factors in Ethiopia. The urban-rural divide
	Edward Fottrell – Dissertation. Measuring mortality in resource-poor countries
March	**Clas Ahlm, Marika Hjertqvist, Jonas Klingström.** Zoonoses with focus on the epidemiology of hemorrhagic fever with renal syndrom in Northern Sweden
	Mesganaw Fantahun – Dissertation. Mortality and survival from childhood to old age in rural Ethiopia
	Stephen Maluka - PhD plan presentation.A strategy to improve priority setting in health care institutions: capturing the potentials and challenges of implementing Accountability for Reasonableness at the district level in Tanzania
April	**Miguel San Sebastian.** Should we stop flying ... NOW?
	Göran Lönnberg och Miguel San Sebastian. Feel free, be free. Time to say bye to "Gates & Co."
	Hailemariam Lemma - PhD plan presentation. Early diagnosis and treatment of uncomplicated malaria: implications of a new malaria control policy in Ethiopia
	Zaino Petersen – Midterm seminar. A patient-centred smoking cessation intervention - Barriers and promoting factors to smoking cessation as perceived by pregnant women
	Bo Burström. Freedom of choice = care on equal terms?
May	**Bruno Hägglöf**. Research ethics approval from an ethical review boards – why, when and how?
	Ana Lorena Ruano - PhD plan presentation. The role of citizen participation in promoting equity and democratic governance in health systems: a case study in Guatemala.
	NTB Thuan – Midterm seminar. The burden of health care expenditures of households in a rural district of Vietnam.
	Malin Eriksson – Midterm seminar. Social capital for health promotion - prerequisites, barriers and prospects.
June	**Hussein Kidanto** – Midterm seminar. Perinatal mortality and quality of care in a tertiary centre
	Björn Halleröd. The relationship between well-being and health conditions among the elderly
	Lars Lindholm. Evidence based public health - decision making under uncertainty
	Susanne Waldau – Midterm seminar. How to implement open priority setting in Swedish health care; a case study
Sept	**Wendy Graham**. Researchers are from Venus, policy makers from Mars: the case of maternal mortality
	Eva-Britt Bergström - PhD proposal. Hälsa, genus och självbestämmande under vuxenblivandet.
Oct	**Johanna Norenhag och Lisa Sahlin Torp**. IFMSA (International Federation of Medical Students' Association) - Global health through local action
	Kristina Edvardsson, Anneli Ivarsson. Child health surveillance and health promotion. The challenge of innovation, implementation and learning
	Kjerstin Dahlblom – Dissertation. Home alone. Sibling caretakers in León, Nicaragua
Nov	**Hendrew Lusey** – Phd proposal. Involving men and boys in preventing HIV in the post-conflict of Congo
	Hassen Nuru - Phd proposal. Cost Sharing, the impetus of New User Fee Policy in Addis Ababa Government Health Facilities: Will Quality, Utilization and Equity Concerns not be Sidelined?
	Ann Sörlin – Midterm seminar. Gender equality and health
	Isabel Goicolea – Midterm seminar. Adolescence pregnancies in the Amazon basin of Ecador
	Ari Probandari– Midterm seminar. Capturing the potentials and barriers of scaling up Directly Obesrved Short-course Treatment (DOTS) strategy in hospitals on Java Island, Indonesia
	Stephen Tollman- Dissertation. Closing the gap: Using health and socio-demographic surveillance to address rapid health transitions in South and sub-Saharan Africa
	Michel Garenne. Maternal mortality in South Africa
Dec	f – Midterm seminar. The Swedish Epidemic of Celiac Disease in Children -Aetiology and clinical expression explored by epidemiological research methods
	Cecilia Olsson – Dissertation. Celiac disease in Swedish children and adolescents. Variations in incidence and essentials of gluten-free eating with a youth perspective
	Helene Johansson – Midterm seminar. Professionernas syn på hinder och möjligheter för en mer hälsofrämjande hälso- och sjukvård
	Maria Wiklund – Midterm seminar. Stressrelaterade och psykosomatiska problem bland svenska tonårsflickor och unga kvinnor, hur förstå och hantera? Steg mot en genusmedveten och hälsofrämjande intervention.

Table 5. Doctoral students registered at the division 2008.

Name	Professional background	Thesis subject
Monika Appel	Sociologist	Creative competition or hampering hierarchy-a study concerning the academic working environment focusing on the doctoral student
Mark Collinson	Epidemiology/demography	Socioeconomic status, migration and health dynamics in the rural northeast of South Africa in the period 1992-2005
Kjerstin Dahlblom	BA *(Diss. 081024)*	Children caring for siblings. Children's perspectives of caretaking in León, Nicaragua – a qualitative and quantitative approach
Kristina Edvardsson	Nurse	Child health promotion and surveillance. The challenge of innovation, implementation and change
Anders Emmelin	BSc, health inspector	Air pollution epidemiology
Malin Eriksson	Social worker	Socialt kapital som verksam resurs i befolkningsinriktade folkhälsointerventioner – förutsättningar, hinder och möjligheter.
Mesganaw Fantahun Afework	MD *(Diss. 080314)*	Mortality patterns by age and gender in rural Ethiopia
Edward F Fottrell	BSc, MPH *(Diss. 080229)*	Vital event surveillance in demographic surveillance sites
Gasto Frumence	Political sciences	Explanatory factors for the observed changes in HIV prevalence and incidence in Kagera region, Tanzania, 1987-2007
Mats Granvik	Health planner	Befolkningen och hälso- och sjukvården – om psykosociala problem, prevention, somatisering och medikalisering
Lemma Hailemariam R.	BSc Biology	Early diagnosis and prompt treatment of malaria. Implications of a new malaria control policy in Ethiopia
Elli Nur Hayati	Psychologist	Domestic violence in urban and rural Indonesia: Women´s experiences and men´s roles for prevention
Le Van Hoi	MD	Health, needs and care for older people: a community-based study in a rural area of Vietnam
Kerstin Hultén	Nutritionist	Breast cancer and dietary habits – an epidemiologic study of protective factors
Kidanto Hussein	MD	Perinatal mortality in a tertiary centre
Shabbir Ismail Abbas	MD, Community Health	Epidemiology of HIV/AIDS and high risk sexual behaviours among populations of Central Ethiopia
Helen Johansson	Physiotherapist	Professionernas syn på hinder och möjligheter för en mer hälsofrämjande hälso- och sjukvård
Faustine Kalengayi	MD	A world on the move: Challenges and opportunities for HIV/AIDS/TB Prevention and care for immigrants
Fyson Kasenga	MD	Demand and adherence of a Prevention of mother to child transmission (PMTCT) of HIV programme
Felix Kisanga	MD	The socio-cultural context of child sexual abuse (CSA) in Tanzania: possibilities and barriers for community prevention
Rose Laisser	Midwife	Health worker´s and community groups´perceptions about intimate partner violence and their roles in care
Kristina Lindvall	Dietician	Those who are able to be stable – Primary weight maintenance as a public health strategy for obesity prevention
Gunnar Lundqvist	MD	Tobaksvanor hos medelålders västerbottningar. Risk faktormönster, rökstoppsattityder och erfarenheter av att sluta röka.
Emil Löfroth	Economist	Vem ska få behandling? Ekonomiska, etiska och epidemiologiska aspekter på fördelningen av resurser för att förebygga hjärt-kärlsjukdom.
Stephen Maluka	MA Development studies	A strategy to improve priority setting in health care institutions: capturing the potentials and challenges of implementing accountability for reasonableness at the district level in Tanzania
Anna Myleus	Medical intern	The Swedish Epidemic of Celiac Disease in Children. Aetiology and clinical expression explored by epidemiological research methods
Maria Nilsson	Social worker	Hälsofrämjande arbete bland ungdomar – att förebygga tobaksbruk
Per Nordin	Statistician	Kontaktgrad och vårdkonsumtion, en alternativ ansats för att belysa behov av sjukvård.
Katrina Nordyke	Nurse	Mass screening for celiac disease. A public health intervention from the perspectives of participants and society
Fredrik Norström	Statistician	Is mass screening for celiac disease a wise use of recourses?
Barnabas Nwarbébé Njozing	MD	The co-epidemic of tuberculosis and HIV/AIDS. Barriers to voluntary counselling and testing (VCT) among TB patients in the northwest province of Cameroon
Leonie Dapi Nzefa	Nutritionist	Food habits of school children in relation to socioeconomic and cultural factors in Cameroon
Firdy Permana	MD	Environmental tobacco smoke exposure (ETS): children's respiratory effects and the strategy to reduce domestic exposure
Zainonisa Petersen	MsC, BA	A patient-centred smoking cessation intervention – Barriers and promoting factors to smiking cessation
Endy Paryanto Prawirohartono	MD	Growth and health of children under tow years of age in Purworejo district, Central Java, Indonesia
Ari Probandari	MD	Capturing the Potentials and the Barriers of Scaling up directly observed treatment short-course (DOTS)
Nguyen Ngoc Quang	MD	Women & hypertension in rural area of Vietnam. Perceptions, risk factors, burden and solutions
Anna Rosén	MD	Exploring the complexity of screening detected celiac disease

Ana Lorena Ruano Salguero	Sociology	The role of social participation in promoting democratic governance in local health systems: a case study in Guatemala
Klas-Göran Sahlén	Nurse	Missgynnas äldre i hälsoekonomisk utvärdering? – illustration från två lokalsamhällen.
Mariano Salazar	MD	A cohort study of intimate partner violence, maternal and child outcomes and ending of abuse
Rubina Shaheen	MD	Combined interventions against maternal depletion and low birth weight in Bangladesh: Issues of cost effectiveness, compliance and equity
Pham Thai Son	MD	Management of hypertension at community level in rural Vietnam – an intervention study
Julie Sorensen	Antropologist	Changing risk perceptions and safety-related behaviours associated with tractor rollovers in New York farmers
Ann Sörlin	Physiotherapist	Jämställdhet och hälsa – utvecklandet av ett jämställdhetsinstrument
Fikru Tesfaye	MD *(Diss. 080229)*	Surveillance of risk factors for non-communicable diseases in Butajira district, Ehtiopia
Fatwa Sari Tetra Dewi	MD	Tobacco control activities in southern area of Java
Nguyen Thi Bic Thuan	Economist	The burden of health care expenditure on households in a rural district of Vietnam
Stephen Tollman	MD *(Diss. 081126)*	Close scrutiny: Evaluating the strengths, limitations and potential of health and demographic surveillance in developing countries
Susanne Waldau	Journalist	An organisational strategy for priority setting in health care
Maria Wiklund	Physiotherapist	”Kroppsjag, empowerment och välbefinnande” - Prevention och hälsofrämjande för tonårsflickor med stressrelaterad & psykosomatisk ohälsa
Maj Lis Voss	Economist	Assessing pre-adolescent well-being in low income and high income countries

Table 6. Visiting scientists and guest researchers at the division during 2008.

Bangladesh	Abdur Razzaque	Matlab Health and Demographic Surveillence System
	Ruchira Naved,	ICDDR,B, Dhaka, Bangaldesh
Cameroon	Barnabas Njozing Nwarbébé	
Congo	Hendrew Lusey	
Ghana	Cornelius Y Debpuur	Navrongo Health and Demographic Surveillence System
	Ayaga Bawah	INDEPTH Secretariat
	Raymond Akparibo	INDEPTH Secretariat
	Osman Sankoh	INDEPTH Secretariat
India	Siddihivinayak Hirve	Vadu Health and Demographic Surveillence System
Indonesia	Ekawaty Lutfia Haksari	Department of Pediatric, Gadjah Mada University, Jogjakarta
	Endy Paryanto Prawirohartono	Department of Pediatric, Gadjah Mada University, Jogjakarta
	Firdy Permana	Public Health, Gadjah Mada University, Jogjakarta
Ecuador	Isabel Goikolea	UNFPA (United Nations Population Fund), Coca
Ethiopia	Yemane Berhane	Addis Ababa
	Negussie Deyessa	Addis Ababa
	Fikru Tesfaye	
	Mesganaw Fantahun Afework	Community Health Department, Addis Ababa University
	Hassen Nuru	Addis Ababa Health Bureau, Addis Ababa
	Hailemariam Lemma	
Finland	Pekka Virtanen	
Germanu	Heikko Becher	
Ghana	Cornelius Debpuur	Navrong DSS
	Osman Sankoh	INDEPTH secretariat
	Ayaga Bawah	INDEPTH secretariat
	Raymond Akparibo	INDEPTH secretariat
Guatemala	Lorena Ruano	Centro de Estudios para la Equidad y Gobernanza en los Sistemas de Salud
	Walter Flores	Centro de Estudios para la Equidad y Gobernanza en los Sistemas de Salud
India	Siddhivinayak Hirve	Vadu DSS
Indonesia	Ari Probandari	Public Health, Sebelas Maret University, Surakarta
	Fatwa Sari Tetra Dewi	Public Health, Gadjah Mada University, Jogjakarta
	Elli Nur Hayati	Rifka Annisa Research and Training Center, Jogjakarta
	Endy Paryanto Prawirohartono	Dept of Pediatrics, School of Medicine, GMU, Jogjakarta
	Ekawaty Haksari	Jogjakarta
	Hari Kusnanto	Jogjakarta
	Firdy Permana	
Iran	Alireza Khatami	
Kenya	Catherine Kyobutungi	Nairobi Health and Demographic Surveillence System
Malawi	Fyson Kasenga	Malamulo SDA Hospital, Makwasa
New Zeeland	Ruth Bonita	
	Robert Beaglehole	
Nicaragua	Eliette Valladares	CIDS, UNAN-León, León
	Rodolfo Peña	CIDS, UNAN-León, León
	Mariane Salazar	
Palestine	Rana Khatib	Institute of Community and Public Health, Birzeit University
South Africa	Stephen Tollman	Dept of Community Health, Wits University, Johannesburg
	Kathleen Kahn	Dept of Community Health, Wits University, Johannesburg
	Xavier Goméz-Olivé	Dept of Community Health, Wits University, Johannesburg
	Mark Collinson	Dept of Community Health, Wits University, Johannesburg
	Zainonisa Petersen	Chronical diseases and lifestyle, MRC, Cape Town
	Krisela Steyn	
Spain	Laura Otero	Spanish National Institute of Public Health
Sweden	Barbro Wijma	Linköpings Universitet
	Katarina Swahnberg	Linköpings Universitet
	Gunilla Lindmark	IMCH, Uppsala Universitet
Switzerland	Somnath Chatterjee	Health Statistics and Informatics, WHO, Geneva

	Paul Kowal	Health Statistics and Informatics, WHO, Geneva
	Nirmala Naidoo	Health Statistics and Informatics, WHO, Geneva
Tanzania	Mathew A Mwanyangala	Ifakara Health and Demographic Surveillence System
	Gideon Kwesigabo	Epidemiology and Biostatistics, MUHAS, Dar es Salaam
	Japhet Killewo	Epidemiology and Biostatistics, MUHAS, Dar es Salaam
	Hussein Kidanto	Dept of Obstetrics and Gynaecology, MUHAS, Dar es Salaam
	Projestine Muganyizi	Dept of Obstetrics and Gynaecology, MUHAS, Dar es Salaam
	Gasto Frumence	Dept of Community Health, MUHAS, Dar es Salaam
	Felix Kisanga	Epidemiology and Biostatistics, MUHAS, Dar es Salaam
	Rose Laisser	Midwifery School, MUHAS, Dar es Salaam
	Stephen Maluka	Institute of Development Studies, Dar es Salaam
UK	Margaret Thorogood	University of Warwick
	John Porter,	London School of Hygiene and Tropical Medicine, London
	S Pramming	
US	Richard Suzman	National Institute of Health
	Kevin Kinsella	US Census Bureau
	Teresa Seeman	University of California
	Paul Jenkins	Basset Research Institute, Cooperstown, New York
	Julie Sorensen	Basset Research Institute, Cooperstown, New York
	John May	Basset Research Institute, Cooperstown, New York
	Anne Nafziger	Basset Research Institute, Cooperstown, New York
	Katrina Nordyke	
Vietnam	Chuc Nguyen Thi Kim	Public Health, Hanoi Medical University, Hanoi
	Tran Thanh Do	Public Health, Hanoi Medical University, Hanoi
	Hoang Van Minh	Public Health, Hanoi Medical University, Hanoi
	Nguyen Thi Bich Thuan	Ministry of Health, Hanoi
	Le Van Hoi	Hanoi Medical University, Hanoi
	Pham Thai Son	
	Dao Lan Huong	Hanoi, Vietnam
	Min Trang	
	Ho Dang Phuc	
	Nguyen Ngoc Quang	
Zimbabwe	Stephen Munjaja	Department of Obstetrics and Gynaecology, University of Zimbabwe, Harare

4. ADVOCACY

Consultancy and advisory functions

We have participated in public health processes through membership of a number of local, regional, national and international bodies, and local and regional peer-review groups on research and development.

Researchers from our department are currently scientific public health advisers to national boards and institutes and referees for a number of scientific journals. We were key advisers behind the Västerbotten County Council Public Health Policy Programme. On a regular basis we train local and regional political assemblies as well as patient organisations and public associations. We participate annually in more than one hundred public health education activities, both for basic public health training and dissemination of public health research.

We are also engaged in various consultancy and advisory functions. Some of these missions during 2006 are shown in Table 7 below.

Since 1992, we have administered the Sida-allocated Minor Field Study (MFS) scholarships given to Swedish professionals/students within the health sector or health related fields. These scholarships will make it possible for them to perform a small study during a two-month period in a developing country. In 2008 six such grants were administered by our department. Reports from all the field studies are now being published in a report series.

Table 7. Consultancy and advisory functions of staff members

Staff member	Function	Duration
Erik Bergström	Scientific advisor in Child and Adolescent Health for the National Board of Health and Welfare	2006-2009
	Board member of the Swedish Pediatric Association	2000-
Peter Byass	Editorial consultant to the Ethiopian Journal of Health Development	2002-
Kjerstin Dahlblom	Assistant Swedish Programme Coordinator for the UNAN-León – Sida/SAREC Research Cooperation Programme	2006-2011
Curt Edlund	Co-ordinator of a national network in Research of Sickness (SPID)	1999-
Ulf Högberg	Swedish coordinator – UNAN-León - Sida/Sarec Research Cooperation Programme	2006-2008
Anneli Ivarsson	Scientific leader of a Child Health Intervention Programme (Salut)	2005-
	Scientific advisor on coealiac disease for the Swedish Society for Celiacs.	2007-
	Chair of the Working Group on coeliac disease for the Swedish Paediatric Association	2008-
	Contributing to a systematic review on "The mental health of school children – trends and sociodemographic differences" for the Health Committee of the Royal Swedish Academy of Science	2008-
Urban Janlert	Deputy chairman of SEEC (East Europe Committee of the Swedish Health Care Community) scientific advisory group	2006-
	Board member of Umeå Centre for Evaluation Research	2000-
Lars Lindholm	Board member of the National Expert Group on A Health Promoting Medical Service, organised by the National Public Health Institute	2003-
Nawi Ng	Member of the editorial board of Global Health Action	2008-
	Member of the Umeå Centre for Global Health Research steering group	2008-
Maria Nilsson	Member of the board for the department of Public Health and Clinical Medicine, Umeå University	2004-2008
	Member of the Advisory Board for the Swedish Government on Drug- and Tobacco policy	2008-
Margareta Norberg	Medical coordinator for the Västerbotten Intervention Program	2008-
Lennarth Nyström	Member of the Editorial Board of the Central African Journal of Medicine	2001-
	Member of the executive Board of the European Breast Cancer Network	1998-
	Swedish representative in the International Breast Screening Network (IBSN)	1997-
Måns Rosén	Member of the scientific priority committee for public health of the Swedish Research Council	2000-
	Member of the Board of the Swedish Network for Pharmacoepidemiology	
	Member of the Scientific Advisory Board for the Swedish Council on Technology Assessment in Health Care	
	Member of the Advisory Committee to the European Commission for Statistics in the Economic and Social Spheres	
Miguel San Sebastian	Member of the editorial board of the International Journal of Occupational and environmental health	2005-
Berndt Stenberg	Member of the Swedish Contact Dermatitis Research Group	1986-
	Member of the executive group for the Swedish Dermato-Epidemiology Network (SweDEN)	1995-
	Member of the executive group for the Swedish Psoriasis Register (Pso-Reg)	2002-
	Country representative of the European Board of Dermatology and Venereology (EBDV)	2003
Stig Wall	Board member of the Epidemiologic Centre at the National Board of Health and Welfare	1993-
	Board member of CHESS, Centre for Health Equity Studies, Stockholm	1999-
	Permanent scientific adviser to the National Board for Health and Social Welfare	1987-
	Member of the Scientific Advisory Committee of INDEPTH, the International Network for Demographic Surveillance in Developing Countries	2003-
	Member of the editorial committee for the National Public Health Reports	1994, 1997, 2001, 2005, 2008
	Editorial consultant to the Ethiopian Journal of Health Development	2002-
	Member of the scientific priority committee at The Bank of Sweden Tercentenary Foundation	2005-
Lars Weinehall	Chair of the National Expert Group on A Health Promoting Health Service, organised by the National Public Health Institute	2003-
	Board member of the Västerbotten County Council Reference group for implementation of the National Public Health Policy	2004-

5. PUBLICATIONS

Original articles

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