Foreword

This Annual Report is the 16th since we were established as an independent research and teaching milieu. We thus try to picture in quantitative and qualitative terms the international setting which has emerged since (p. 9-20) and to mirror some significant recent developments that are sure to impact on our activities in the near to medium-term future (p. 21-24). This, however, does not claim to be representative of our overall agenda. As in previous Annual Reports, research activities are outlined along three problem areas – etiological, social and interventive public health, under which specific projects are described and may appear more than once. Subsequently we describe the international teaching of UISPH (p. 59-66) as well as our advocacy mandate (p.69-71).

The above developments relate partly to a long term major grant from FAS, the Swedish Research Council and the formalization of long term collaborations with the Västerbotten County Council and the National Public Health Institute, enabling senior lecturer posts in health care research (for Lars Weinehall), health economics (for Lars Lindholm) and epidemiology (for Anneli Ivarsson) as well as support for doctoral work in related fields. This has brought several newcomers to us (Helene Johansson, Maria Sjölander and Maria Wiklund) and the return of Anneli. We have also welcomed Anna-Karin Hurtig and Miguel San Sebastian and we are proud that, when returning to Sweden after several years of epidemiological field work in Ecuador and Peru, they chose to settle in Umeå.

Major outputs during 2003 include Lennarth Nyström´s qualification as Associate Professor and Nils Oscarsson´s successful defence of his licentiate thesis. Måns Rosén´s extended adjunct Professorship with us will further enable doctoral students from EpC, the National Epidemiological Center, to register in Umeå, a major result of which was the doctoral thesis by Gunilla Ringbäck presented during 2003. During 2003 we have admitted 7 new doctoral students, two from Vietnam (Nguyen Xuan Thang and Hoang Minh Hang), two from Ethiopia (Fikru Tesfaye and Yegomaowork Gossaye), one from the U.S. (Anne Nafziger), and two from Sweden (Mats Granvik and Lars Hagberg).

A recognition benefiting all staff is our designation by WHO as a Collaborating Centre in Epidemiological Surveillance and Public Health Training (p. 4). This will serve not least to foster recruitment of international students to UISPH.

Finally, we remember and feel the loss of Carol Lewis (p. 1), her strong social commitment, spirit and friendship. She was a longstanding supporter and collaborator who made Umeå her second home.

Stig Wall,

Head of Division

Printed by Print & Media, Umeå, Sweden 2004
Cover photo: Peter Byass

Content

page

In Memoriam of Carol Lewis (1934-2003)

Carol Lewis was a public health researcher who studied the prevention and control of chronic disease. She was especially interested in improving health by reducing heart disease risk, and believed that the most effective way to accomplish this was through the education of the public.

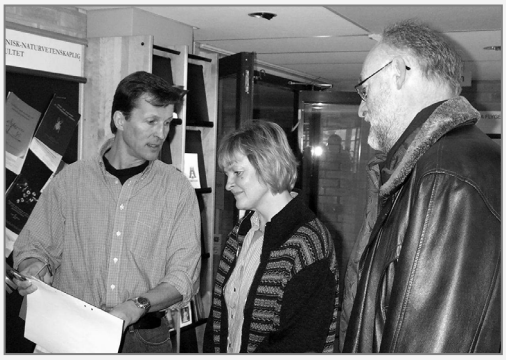
Carol lived in Massachusetts during her early life. She completed her bachelor's degree at Radcliffe/Harvard College, a Masters of Social Work at the University of Maryland, and both a Masters of Public Health and a Doctor of Science (Sc.D.) at the Johns Hopkins School of Hygiene and Public Health. She worked in Maryland as a psychiatric social worker before moving to Cooperstown, New York, to assist in the initiation of public health research to reduce chronic diseases in Otsego County, New York. She served as a Research Scientist with the Bassett Research Institute for 13 years. In that capacity, she assisted in the design and conduct of Health Census '89, the Otsego-Schoharie Healthy Heart Program, and Health Census '99, as well as serving as Co-Director of the Otsego Public Health Partnership. Health Census '89 and '99 assessed the health of residents in Otsego County and the surrounding region. The Healthy Heart Program was a five-year community intervention program aimed at reducing heart disease risk through encouraging physical activity such as walking, prevention of tobacco use, smoking cessation, blood pressure screening and control, cholesterol screening and control, healthy diet, in the community and school settings. Carol Lewis was credited with over 200 publications relating to the epidemiology of chronic disease and other social issues such as domestic violence. She was also a longtime advocate for mental health services for the under-served. In addition to her public health activities, she was active in the local community.

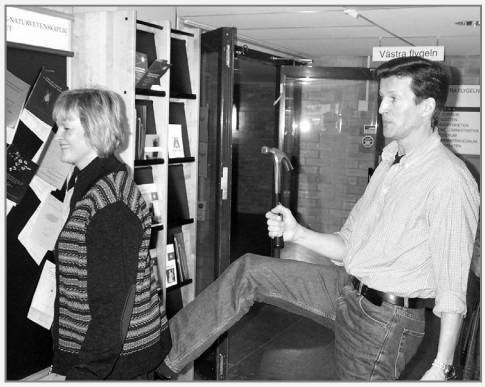
Carol was an avid educator. She took a special interest and pride in working with students and trainees. It was important to her that her students achieved their goals and were recognized for their contributions to their professional fields. She was a gifted writer and editor and often put these talents to work on behalf of her colleagues and students.

Carol was a kind, dedicated person with a wonderful sense of humour. She was a free spirit who loved to travel, but who also had a strong sense of community. Carol Lewis is survived by her son Brenton Creelman of Beaufort, North Carolina, and her daughter, Monica Creelman-O'Donahue, of New York City. Carol Lewis' eldest son, Peter Creelman, died in 2001.

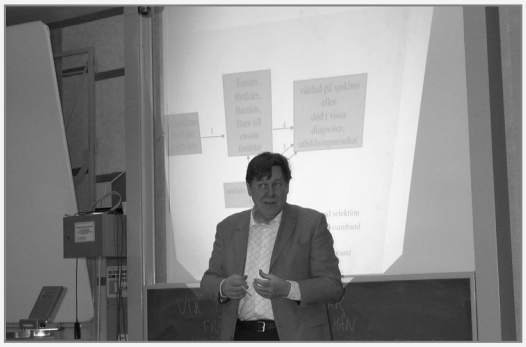
Carol was fond of Sweden and we know that Umeå held a special place in her heart. The collaboration started when Lars Weinehall spent some months at Basset Research Institute to work on his thesis. This was also the starting point for "The Northern Lights Working Group", a research collaboration to compare the experiences from the Västerbotten Intervention Programme with that of the Otsego Heart Health programme. Her broad public health competence also turned her into an excellent collaborator for language revision and editing of public health course books for our Master's programme. She was also an appreciated reviewer and committee member of the Scand J of Public Health. Carol's unique capacity for listening and sharing experiences made her a special and personal friend to many of us. When she came to Umeå in October 2003 her body was weak but she was determined to join in the final revision of a course book on qualitative methodology. She was happy to have made the journey and we are very sad that she could not stay with us longer.

PhD event during 2003





Gunilla Ringbäck nailing her thesis



Respondent, supervisor (Måns Rosén) and
opponent (Denny Vågerö) on March 21, 2004

Scholarships for MPH studies 2003/2004

Since 1997, the ***STINT foundation*** (Swedish Foundation for International Cooperation in Research and Higher Education) has made a number of one-year MPH scholarships for study in Umeå available to students from certain countries in East Asia, South Africa and Latin America. The following six students are the current group of scholarship holders.

*Ari Natalia Probandari***,** Gadjah Mada University, Jogjakarta, **Indonesia**.
*Zainonisa Petersen***,** Dept of Chronic Diseases of Lifestyle, Medical Research Council, **South Africa**.

*Ramoteme Lesly Mamabolo***,** Dept of Medical Science Discipline, University of the North, **South Africa**.
*Elli Nur Hayati***,** Rifka Annisa Research and Training Center, Jogjakarta, **Indonesia**.
*Shen Lijun***,** Dept of Occupational and Environmental Health, Fudan University, Shanghai, **China**.
Siyang Yan, Dept of Stomatology, Capital University of Medical sciences, Beijing, **China**.

For the past 3 years the ***East European Committée*** has given scholar-ships for two students/academic year – for this year to *Leont'eva Maria Valentinova* and *Alexander Valerievich Kudryavtsev,* both from Archangelsk, **Russia**.

Two new scholarships from ***The County Council of Västerbotten*** for students from the new EU countries were awarded to *Maria Demitriou*, **Cyprus** and *Helen Calleja*, **Malta**.

The Swedish Institute gave out 4 scholarships to: *Maxim Mily*, **Belarus**; *Pinky Jha*, **Nepal**; *Tamari Trapaidze*, **Georgia** and *Robert David Warigen Yendowe,* **Papua New Guinea**. These four students are the current group of scholarship holders.

WHO Collaborating Centre

As of October 2003 the World Health Organization decided to designate us as a WHO Collaborating Centre for *"Epidemiological Surveillance and Public Health Training"*. This is a major recognition of our international collaborative efforts and which potentially adds to the visibility and sustainability of our research and training activities. Research and training in international public health in our department has evolved during the past twenty years through individual experiences and informal alliances as well as through an emerging critical mass, eventually formalized into research groups and academic environments. Several individuals have joined on the basis of common experiences from clinical work or teaching in developing countries and we were among the first groups in Sweden approached for bilateral research collaborations when the Swedish Research Cooperation Agency, SAREC, was established in the late 70´s. Thus, institutional collaborations were starting with Somalia (primary health care), Ethiopia (reproductive and child health), Tanzania (HIV/AIDS) and Nicaragua (child health and domestic violence) in the 80´s, all with a substantial capacity building component. All these collaborations took off from research training courses and workshops to define the research agendas. As part of a so-called sandwich-training model, ten PhD theses have been produced by nationals from these countries. During the 90´s further collaborations with Vietnam, Indonesia and South Africa started, addressing the changing public health scenarios in these countries, e.g. the emerging epidemic of non-communicable diseases. A common denominator in all these collaborations has been epidemiological methodology and the population approach. Longitudinal surveillance systems have been established as so-called *epidemiological field laboratories*. They form the infrastructures within which specific research projects are designed and executed. They also supply the demographic information structure and sampling frame for these projects and potentially for the forthcoming interventions. Several of these field sites are now members of the recently established network INDEPTH (www.indepth-network.org). The above forms the background and rationale for becoming a WHO Collaborating Centre. It also results from longstanding collaborations and informal links with different branches in WHO, especially with the Cluster of Non-Communicable Diseases, and in our capacity as temporary advisors and members of various task forces and priority committees.

The overall objectives are to develop and implement, in collaboration with WHO, epidemiological surveillance specifically of non-communicable diseases, to support capacity building in developing countries and to promote and collaborate with member countries on surveillance and operational research needed to enhance the effectiveness of disease prevention and surveillance. *Terms of reference* include

- To conduct International Public Health Research Programmes for policy developmentTo conduct an International Public Health Training Programme in epidemiology and field research methodsTo collaborate with WHO on the development of policy documents and guidelines for surveillanceTo collaborate with WHO on the development and evaluation of methods for field surveillance in epidemiological field laboratories in low-income countries, working towards a better overall understanding of global health through reliable data

My experiences in Umeå and the Umeå University

Way back in my own country, Mongolia I was browsing the Internet for postgraduate courses, I happened to come across Umeå University which was offering MPH courses in my area of interest. Therefore, I immediately found out more information about the University and the course content. At the time I did not even realise Umeå was in Sweden! I soon found out. As I was discussing my possibility to study over there with my family, since it was a Scandinavian country, my brother himself had studied in Norway, and my father had participated in a study tour in Denmark, they encouraged me to apply for it. I did so and now here I am. I am very happy to be the first student from my country here at Umeå University. I regard it as a great opportunity, also a big responsibility, so I try to do my best to reach my goal.

Five months have passed already so quickly. Therefore, what can I say about this Umeå. The first impression I got in Umeå was the lovely blue sky, the cleanliness, and the freshness all around me. It was a great experience, I never believed that I could see such blue sky as beautiful as my own country. In addition, nice green environment with surrounding forests and clean streets and pavements leading everywhere around the University and student hostels etc, all were amazing for me.

The weather and seasons of Northern Sweden are very similar to that of my country, so it was easier for me to get used to the climate than for students who come from southern continents of the world. Particularly, the winter of Umeå reminds me a lot of my own countryside, because there is also huge amount of snow there in January. The only thing that was difficult for me was the darkness, especially in November.

The days are passing quickly and now they are also getting longer and we could see the sun (some days). Here I have made many friends. My classmates come from 25 different countries, from all five continents of the world, it has been exciting to get to know them with their different backgrounds and culture. I am very happy to be living in Gluntens väg, where most of my classmates live. We often go to each other, sharing our experiences together. Sometimes we cook and eat together, other times we watch television together and we celebrate each other's birthdays by organising parties.

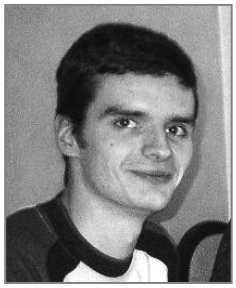
Mongolia

My success so far has been indebted to all of my lecturers and their teaching skills. In addition, my lecturers have also been so helpful and if it were not for their kindness and understanding, I would not have made it so far. Not least, I also want to mention Birgitta and Karin, both of whom have been so helpful to me. They are like our mothers here in Umeå.

Well, that is all I would like to say about my experience in Umeå. To summarise, it has been a superb experience, one that I will cherish all my life.

Tsevelmaa Baatar
Ulaanbaatar, Mongolia

Studying in Umeå



The history of my coming to Umeå starts from the moment when I realized that despite previous 8 years of studies I lacked some essential knowledge for my work. I started to think about this more and more and finally arrived to the conclusion that I definitely have to undertake a study in Public Health, which would give me a wider background than clinical medicine. As a result of my efforts on obtaining an admission to Master of Public Health Program I originally had conditional offers of places at 6 or may be even more universities. And to be honest, I mainly hoped for successful securing of funding for study at Emory University in Atlanta or Leeds University. So, when due to scholarship from Swedish Institute it turned possible to study in Umeå I experienced quite mixed feelings. Before I started the study here I had been once to Sweden, in Gothenburg and did not find this experience very fascinating. I still think that there is no more windy, rainy and gloomy place in the world than Gothenburg. Additionally the perspective of living in a city with around 100,000 inhabitants was not very attractive because I also wanted something lively. So, when I was preparing for coming to Umeå, I was not very enthusiastic in some aspects. But to the best of my knowledge the university's strong reputation in Public Health was unquestionable.

But now, after spending half a year in Umeå I am sure it is a great city to live in. Umeå is a prosperous and green town, enjoying some of the best nature in Sweden with a safe and clean environment. Umeå is definitely a student-oriented city – very vibrant, multicultural and welcoming. Here your nationality is not a problem – Umeå is a very accepting city with a fun culture. It's so great to hear all the different languages being spoken in the street, including Russian sometimes. Umeå really has something for everyone. It is a small city really but still retains many of its fine old streets and buildings. Now I know that life in a small town has its own pluses – you get to see everybody regularly and I am always bumping into my friends. It is extremely convenient that you can easily go everywhere in the city by bicycle so time spending on travelling is kept to a minimum. So, time in Umeå is both rewarding and enjoyable.

There are many reasons why you may want to choose to come and study at Umeå University. I am sure that the Master of Public Health Program at Umeå is one of the best in the country. It is a really great course, it somehow makes sense of my life. It has certainly helped me think more. This course gives me so many ideas of what I want to do when I will graduate. All our tutors are well known in their profession – it is a real privilege to be taught by them. University staff go out their way to make the international student experience a good one and offer excellent student support facilities. Many people in the University community are ready to provide assistance if you need it -just do not hesitate to ask them!

The best thing of all is that the department works as a real team – staff and students are all committed to working together. You get great support from your tutors and supervisors, and the resources are excellent. Also I extremely like the fact that the learning is done in modules and that you get plenty of time between courses for your own extra-curricular activities.

I was a little bit worried about fitting in with the other students, but it is turned that there is an excellent social life between the students and fitting in is in no manner a problem. The living in a student corridor is ultimately interesting entertainment, as well as all social events that we regularly have here among the students and at the department. Also I want to testify that students with an interest in sporting activities will definitely find the local opportunities exciting . It is really great that for a nominal joining fee you can join the sports centre and thereafter use all its fascinating facilities free of charge. So, while being a postgraduate student means that you do have to work hard, I try and get to IKSU almost every day. There is plenty to do at the sports centre and I enjoy playing volleyball, going to gym and swimming as a means of relaxation.

Finally here in Umeå I have the main thing I essentially need - a fairly full timetable. Umeå is a very positive, interesting experience for me. It is a hard work but fun. I really feel that I made the right choice with Umeå. I will really miss Umeå and our department when I leave – I am really enjoying it and would definitely recommend people to come.

Maksim Mily

Vitebsk, Belarus

To be a PhD student

To be accepted as a PhD-student 25 years after leaving university, and also enrol into the students union again, was for me an event of great importance. As a doctor in primary care I am faced daily with patients of all ages, men and women, with a broad spectrum of symptoms and diseases, and this diversity of problems is at the same time the difficult point and the great charm and challenge of my work. In clinical work I am used to being pressed for time and often being interrupted during consultations to form an opinion, find diagnosis and make decisions at a rapid pace. Opportunity for reflection or time to draw conclusions from problems or conditions of similar kind is sparse.

I have met many people suffering from late disabling stages of cardiovascular disease, mainly stroke and cardiac failure, and when looking back in their medical records I cannot deny that years before, at a time when they were still free from symptoms and feeling well, they obviously were at risk for later development of complications, and yet, little or no preventive action was taken. This clinical experience is the background for my interest in exploring early stages of cardiovascular diseases, with focus on type 2 diabetes, one of the major risk factors.

Within the frame of a course on research methods at the department of Family Medicine I began to outline a project on early risk markers for the development of type 2 diabetes. Already from the beginning I have had the great advantage to work together with experienced researchers from different fields; besides epidemiology and public health and family medicine, also diabetology and behavioural medicine, and not least, statisticians.

From the very first day at this department I have enjoyed the warm and friendly atmosphere, the whole staff doing their very best to make everyone feel comfortable and a member of the team. The research milieu, characterized by the amplitude of ongoing projects and a great number of international collaborations, is very inspiring and at the same time challenging. The great difficulty is, besides shortage of time as there is a shortage of general practitioners, also the frequent change of focus, from the practice as a doctor under stress to the more slowly and forward-looking, but not less concentrated and intense, work as a researcher. Every time I come back to the department I have to same extent make a restart. Being a PhD student I appreciate most of all the opportunity to penetrate a problem in depth. It is also very stimulating to meet colleagues and different professionals, not only from different countries, but also from different departments within the medical field. So, although I hope I will some day be able to defend my thesis, by now I am very pleased just to be a PhD student.

Margareta Norberg

Back on Track

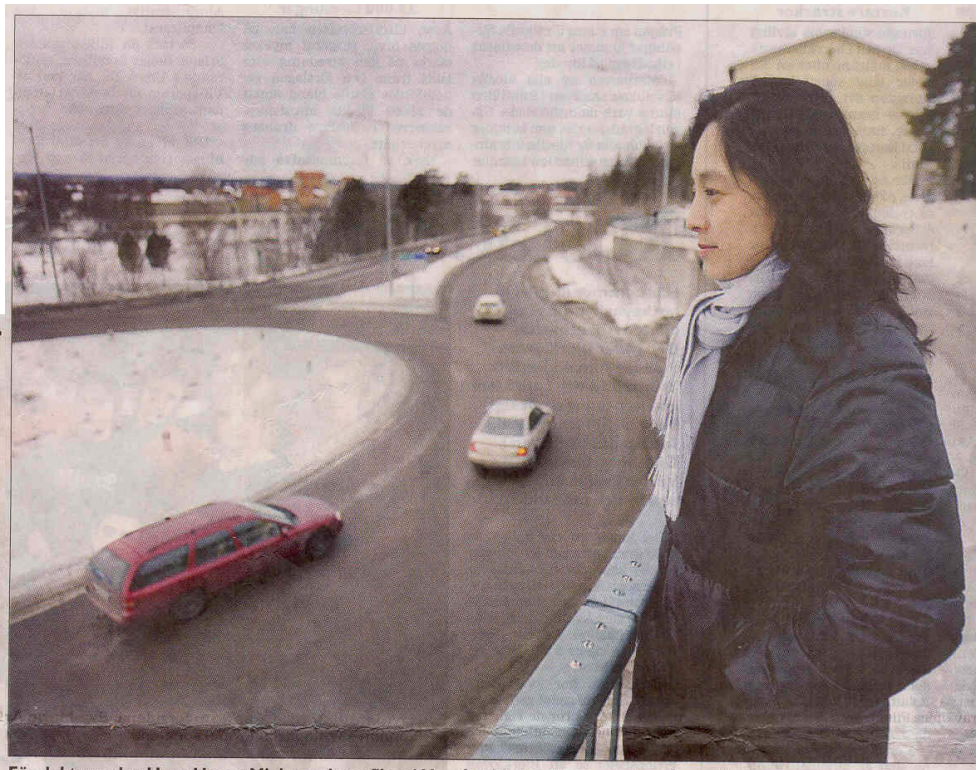
In the end of the last century, I was standing at, for me, a very difficult crossroad. On one hand I had a job which I was extremely satisfied with, and on the other hand I had "an offer I could not refuse". Due to a lot of reasons I choose the latter one. For four years I struggled in our family business, mostly having discussions with my copartners almost always disagreeing on what direction the company should take.

In the beginning of 1996 I started to work with IT-Strategy for a local IT-company. During the coming years we had a very good business and a lot of interesting business processes to getting into and coming up with new solutions how to proceed even more successful in the future, but I felt that there was something missing.

In the autumn of 2003 my wife was sitting in a bar, in Prague in the Czech Republic, together with Malin Eriksson having a relaxed discussion around Malins new workplace "Epidemiology and Public Health Sciences". My wife mentioned that I had been working as a statistician at that very same address and that I had told her "so many good things" about the department of Epidemiology. A month later I was called to a meeting within the "Urban Design" group and was asked if I was interested to join the project part time. Guess what, I really was interested, first at 25% a month later at 50% and at 75% from the start of August. (At this speed I will be working 400% in a couple of years). Today I am working fulltime at the department, and I am finally, ten years later, **Back on Track.**

Göran Lönnberg

Västerbottens Kuriren, Wednesday March 10, 2004



För doktoranden Hang Hoang Minh ter sig trafiken i Umeå väldigt ordnad och disciplinerad. I Vietnam har antalet motorcyklar, mopeder och bilar ökat explosionsartat och med det följer att allt fler skadas i trafiken.

”Det här är en viktig möjlighet för mig”

Hang Hoang Minh från Vietnam forskar om olycksfall, angeläget med tanke på att antalet bilar och motorcyklar i Vietnam femdubblats på tio år och många skadas i trafiken.

Jobbet med avhandlingen innebär hårt slit och långa perioder borta från familjen, men är mödan värt, tycker hon.

– Jag lär mig mer här än jag annars skulle ha gjort. Visst är det tungt att åka hemifrån, men jag försöker se allt från den ljusa sidan. Min familj stöttar mig. Min arbetsgivare också, men när jag är hemma får jag jobba dubbelt så hårt. Jobbet där ligger oftast kvar och väntar på mig, ler Hang.

Hang Hoang Minh är 45 år och kommer från Hanoi, där hon är medicinsk statistiker vid Hanois medicinska universitet. Hon har läst utomlands förut, i Belgien där hon tog sin mastersexamen. Nu undervisar hon blivande läkare, sammanställer statistik och forskar. I distriktet Bavi på landsbygden utanför Hanoi har svenska och vietnamesiska epidemiologer byggt upp en fältstation. Där har Hang sitt projekt.

Inte representativa

– Vi vill reda ut vilka olyckor som är vanligast. I Vietnam är det svårt att få sådan information. Sjukhusen har en del data, men de är inte representativa. Hälften av dem som skadar sig kommer aldrig i kontakt med sjukvården.

Hangs forskning pekar på att de flesta olycksfall, precis som i Sverige, sker i hemmen, särskilt på landsbygden. Främst äldre och barn gör sig illa, de ramlar, skär sig och bränner sig på spisen. Många skadas också i jordbruket. Fotskador är vanliga, eftersom man arbetar barfota på risfälten.

Trafikolyckor är ett växande problem. Antalet mopeder och motorcyklar har på tio år ökat från två till drygt åtta miljoner.

I Hangs ögon är trafiken i Umeå ytterst väldisciplinerad jämfört med i Vietnam. Särskilt på landsbygden kör folk som vettvillingar. Vägarna är dåliga, ofta leriga och hala.

Fuktigt klimat

Hang Hoang Minh hoppas att hennes forskning ska leda till bättre förebyggande arbete. Ibland handlar det om små enkla saker, påpekar hon.

– Klimatet är väldigt fuktigt i Vietnam, därför växer det ofta mossa kring husen. Den är halkig, det är därför många äldre faller. Att rensa bort mossan skulle förhindra många olyckor.

Regeringen har antagit ett femårsprogram för ökad trafiksäkerhet.

Trafikreglerna blir allt striktare, särskilt i städerna. Men på landet finns fortfarande mycket att göra, tycker Hang Hoang Minh.

De senaste fem åren har hon varit i Umeå två–tre månader varje år. I höst ska avhandlingen vara klar, därför stannar Hang lite längre den här gången. Hennes man och två döttrar, 14 och 20 år, är kvar i Vietnam.

– Det är fortfarande jobbigt att lämna dem, men de klarar sig bra hemma.

Hang Hoang Minh från Vietnam delar rum på institutionen med Ninuk Fri Hartini, doktorand från Java, Indonesien, som snart lägger fram sin avhandling om gravida kvinnors hälsa.

De studerar flitigt, min äldsta dotter läser medicin på universitetet, och hjälper varandra.

Omställning

Det låter odramatiskt när Hang berättar, men hon har ändå fått bryta med traditioner. I Vietnam sköter kvinnorna fortfarande det mesta i hemmen.

– Första gången jag åkte hemifrån var det en jobbig omställning för familjen. Samtidigt förstår de att det här är en viktig möjlighet för mig.

Hang tycker att hon blivit väl mottagen i Umeå. Folk är snälla och gästvänliga, tycker hon.

– Vädret är kallt, men jag känner mig varm inombords. På institutionen är alla hjälpsamma och till och med under julen har jag blivit hembjuden till folk.

Under perioderna i Umeå bor Hang i studentkorridor på Ålidhem. En omställning det också, en del korridorkompisar är unga och hemifrån för första gången.

– Men de är trevliga, vi har kul ihop och pratar mycket. Jag känner mig yngre när jag pratar med dem, skrattar Hang.

ANNA-LENA LINDSKOG

1. INSTITUTIONAL SETTING

Organization

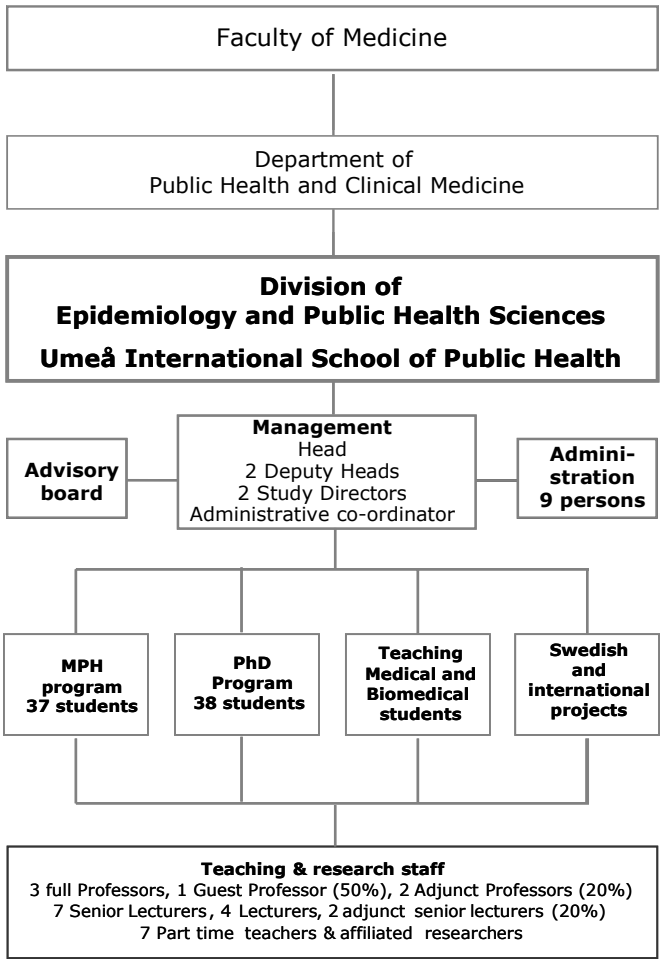


Figure 1. Organisational chart of division within department and faculty

Our division is one of five subunits within the Department of Public Health and Clinical Medicine, as shown in the chart above. All formal decisions concerning the Division are thus taken by the Board of the Department. The advisory board of supervisors serves to address policy and research training issues in our division, specifically to assess candidates for PhD training, while 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 supvervisors.

The informal structure in our division is represented by different groups with specific objectives. There is a group for handling computer issues for employees as well as students, a Library group dealing with books and journals to be acquired, a group with special responsibility for the distribution of office space among em-

ployees. Furthermore a special group is responsible for planning and organising a summer course "Epidemiology and Field Research Methods". Most issues within the Division are also discussed in a bi-weekly staff meeting.

Staff development

At present 73 research and administrative posts are attached to our division, including international and doctoral students employed or associated with other departments. Of these 39 are women (53 %). Of the 8 professors, including upgraded and adjunct as well as affiliated, 2 are women. Of 18 teachers/researchers employed as senior lecturers, adjunct senior lecturers or lecturers, 7 are women. Of 24 Swedish PhD students currently registered or about to be registered, 15 are women and among 14 international PhD students 7 are women. Eight of 9 administrators are women.

Of all 31 taking their PhD during 1987-2003, 14 were women. Nineteen of these were Swedes, 10 of which were women. Of all 14 finishing their PhD since 2000, 8 were women. During 2000-2003, 21 were admitted for PhD studies, 11 of which were women. The gender balance is illustrated in Figure 2 below.

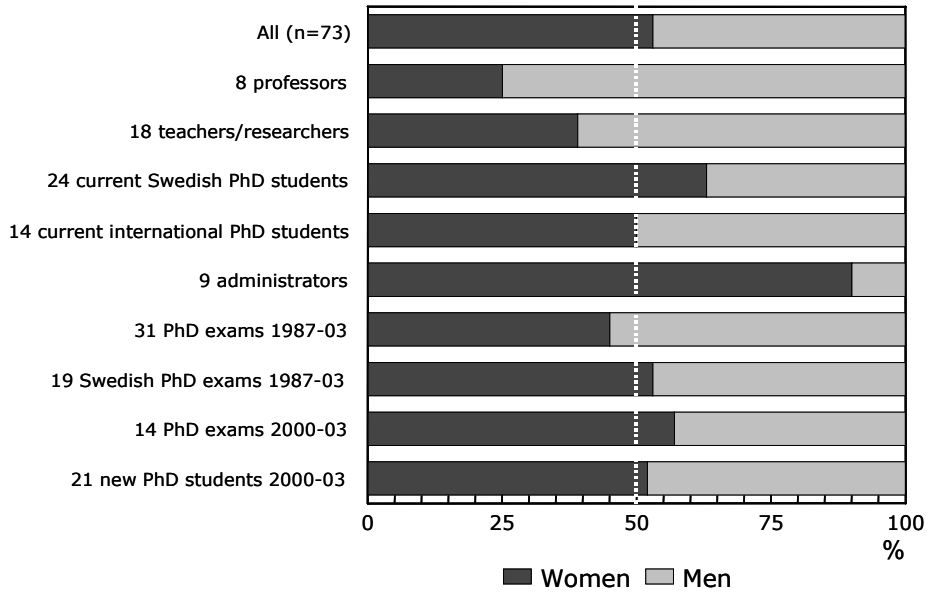


Figure 2. The gender balance 2003/04 among all 73 staff members employed at or associated with our academic environment by subcategory.

In all, 38 doctoral students (Table 5 , p 68) are registered (2003) with our research programme or receive major tutorial with us. Fifteen of the research students' group are physicians, and the others represent a mix of sociologists, economists, social workers, dentists, environmentalists, physiotherapists and nutritionists. The 22 post-doc personnel represent 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 35 full-time staff, 25; 41 and 34 % accounted for by administrative, pre-doc and post-doc staff respectively (Figure 3).

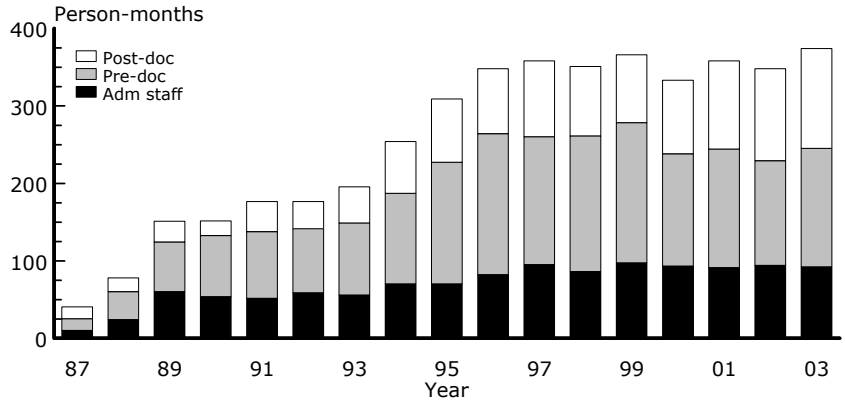


Figure 3. Development of person-months at work by staff category 1987-2003

Budget

The total budget (Figure 4) for the year 2003 amounts to SEK 25.5 million, 60% of which are external Swedish research grants or grants for bilateral development research projects (Figure 5).

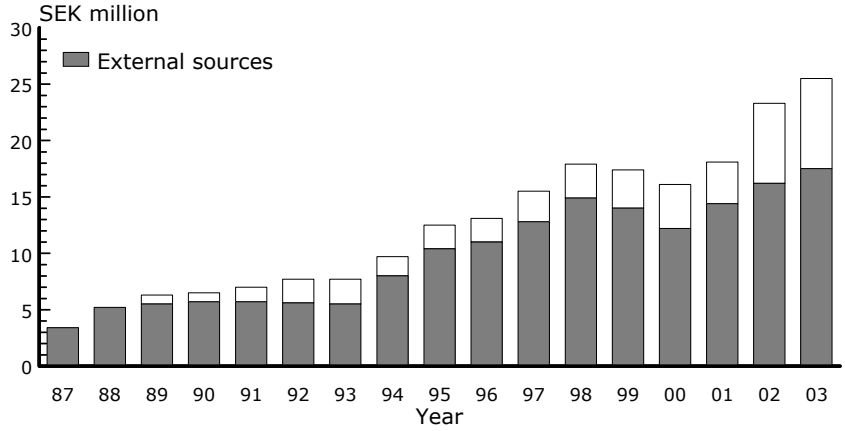


Figure 4. Development of total budget 1987-2003

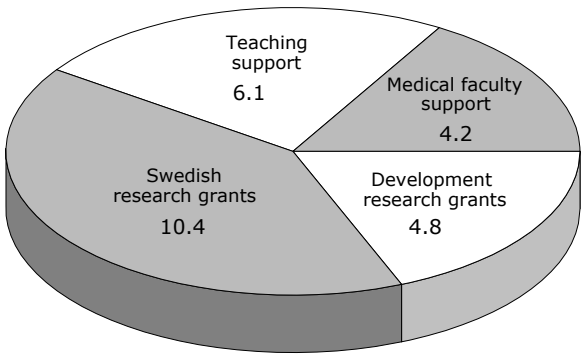


Figure 5. Financial sources for the fiscal year 2003 (in SEK millions).

During the past 10 years, we have seen a core support increase from the faculty from the 1.5 million SEK in 1994 to the present 4.2 million. The teaching support, and the associated responsibilities, have increased from 0.6 to the present 6.1 million SEK. The latter is mainly a consequence of the expansion of the public health teaching to the now complete offer of an international MPH programme and our increasing involvement in the medical undergraduate programme (see also p. 59). The balance between Swedish and development research, see Table 1, has shifted to about 70:30 lately due to 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 and from Sida/SAREC for our Summer Course. Scholarships were for the sixth year offered by STINT, from the East Europe Committee and from the County Council (Table 2).

The output side of the budget is shown in Figure 6 by type of expenditure. Thus, almost half is accounted for by salaries and 12 % by the operating budget. It should be noted that the overhead support to the university administration was SEK 1,56 million during 2003.

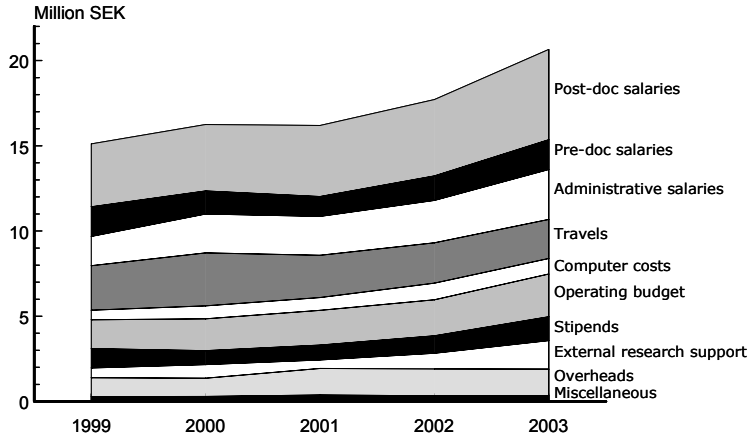


Figure 6. Budget development 1999-2003.

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 is 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 external grants awarded. Each department is given a budget, partly as a result from this bonus system.

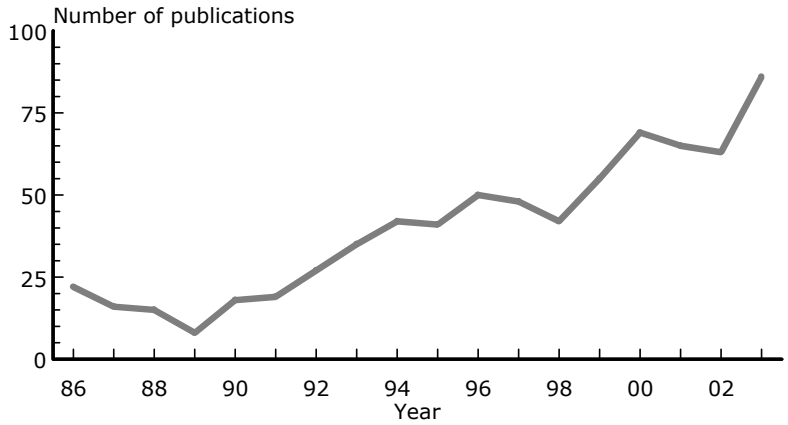


Figure 7. International publications in peer reviewed journals from our unit 1986-2003.

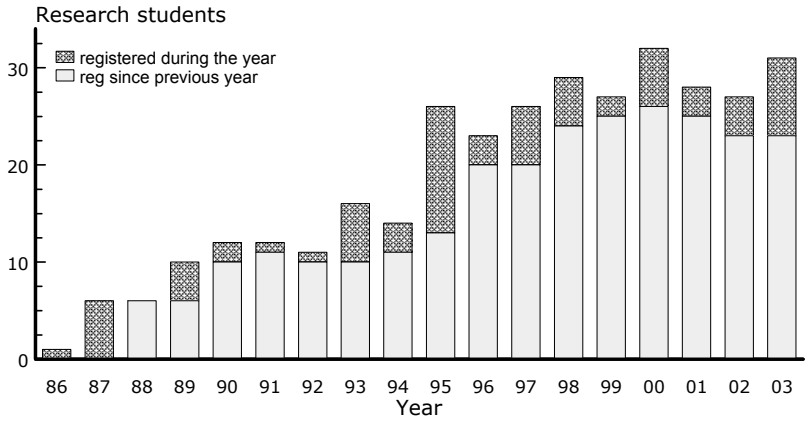


Figure 8. Research students at the division 1986-2003.

Figure 8 shows the pipeline for one of these parameters, the number of research students over time. During 2003, 38 pre-doc personnel were associated to our environment, 8 of which were registered during the year and 6 preparing for registration during 2004. A total of SEK 11.7 million is thus channelled to the departments as a bonus; we acquire 8.0 percent of this, ranking us number 2 of the 53 divisions of the medical faculty. Figure 9 shows the number of doctoral dissertations over the 16 years that we have existed as an independent research environment.

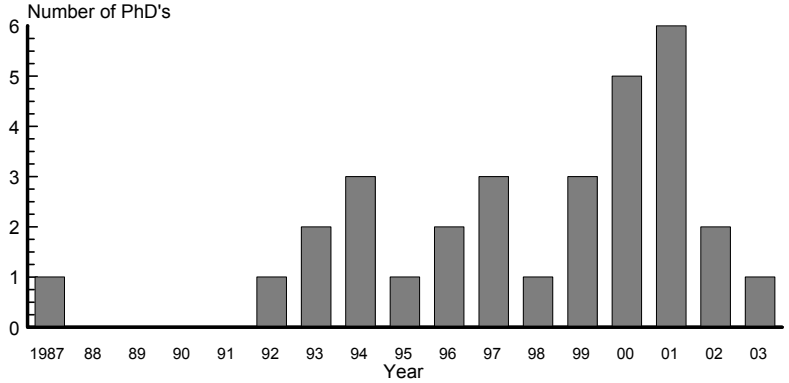


Figure 9. Doctoral dissertations 1987-2003.

Table 1. Project grants for 2003.

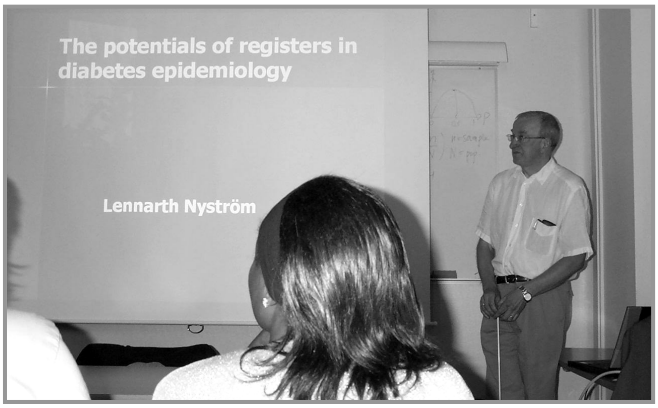
Funding source	Title of project/programme	SEK
FAS	Epidemiology for public health interventions – program support	1 300 000
	Gästforskarbidrag: Hälsoinformationssystem – metodutveckling för internationell epidemiologi och forskarutbildning	100 000
	Reducing inequities in health – program support	1 180 000
	Scandinavian Journal of Public Health (support for Editorial Board)	200 000
	Professionella strategier, yrkesutveckling och akademisering av traditionella kvinnoyrken i hälso- och sjukvården – ett genusperspektiv	325 000
	Kreativ konkurrens eller hämmande hierarki. Akademins arbetsvillkor ur ett doktorandperspektiv	455 000
	Utgör lågt kostintag av folsyra en riskfaktor för hjärtkärlsjukdomar? En epidemiologisk studie i norra Sverige.	520 000
	NEON – Nätverket Epidemiologi Och Nutrition	195 000
Vetenskapsrådet	Violence against women during pregnancy and puerperium – the women, the child and the spouse	200 000
	Is low intake of folic acid a risk factor for cardio-vascular diseases?	150 000
Sida/SAREC	Epidemiology of child morbidity and mortality in rural Ethiopia	400 000
	Butajira health in transition study, Ethiopia	600 000
	Information for understanding and managing health transition, South Africa	150 000
	Reproductive and child health – Nicaragua	510 000
	TANSWED HIV programme in Tanzania	592 000
	Health Systems research, Vietnam	1 030 000
	Reproductive health in Tanzania	193 000
	Reproductive health in Zimbabwe	70 000
	Epidemiology for Public Health Intervention – program support	200 000
	Health transition and prevention in perspective – the emerging chronic disease epidemic in South African disadvantaged communities	300 000
	Health status of indigenous people living in the proximity of oil fields in the Amazon basin of Peru	70 000
	Domestic violence, mental health and child survival in Ethiopia	150 000
	Child caretaking of siblings in Nicaragua	75 000
	Risk factors for non-communicable diseases in Indonesia	300 000
	Combined interventions against maternal depletion and low birth weight in Bangladesh	100 000
EU	Evaluation of effectiveness of breast cancer screening with mammography	328 000
	Urban design	318 700
County Council	Utvärderingsmodell för hälso- och sjukvård utifrån ett beställarperspektiv	120 000
	Universitetslektor i hälsoekonomi	81 000
	Handeksem – förlopp och resultat av behandling och rehabiliteringsåtgärder	130 000
	Utvärdering av försök i Holmsund och Robertsfors	275 300
	Utvecklingsarbete för att utforma metodstöd i processen för en mer hälsofrämjande hälso- och sjukvård	125 000
	Universitetslektor Hälso- och sjukvårdsforskning	253 800
	Fortsatt utvecklingsarbete med utvärdering av Västerbottens hälsoundersökningar	250 000
	Liv och hälsa	450 000
	Hälso- och sjukvårdens bidrag till en utvecklad folkhälsa	675 000
	Nationella registret för celiaki hos barn	86 500
	Bäckensmärta under graviditet	90 000
FHI	Programme support	1 062 000
	Hälsoekonomisk utvärdering av förebyggande hembesök för äldre	297 200
Vårdalstiftelsen	Do priorities in health care vary with ethical, societal or economic preferences?	600 000
Taylor & Francis	Royalty Scand J Public Health	200 000
Miscellaneous		569 100
Total		**15 276 600**

Table 2. Post graduate and research training support and stipends for 2003/2004.

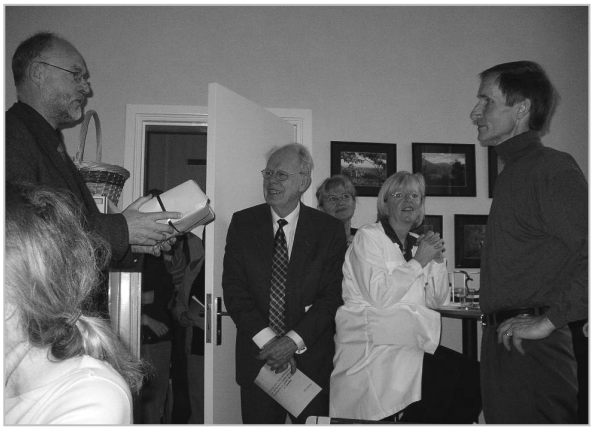
Funding source	Title of programme	SEK
Medical faculty	*Master of Public Health Programme:*	2 004 000
	- Public health, 10 points	
	- Epidemiology, 10 points	
	- Biostatistics, 10 points	
	- Medical sociology, 10 points	
	- Qualitative methods, 10 points	
	- Evaluation methods in community intervention, 5 points	
	- Nutritional epidemiology, 5 points	
	- Hälsoekonomisk utvärdering, 5 poäng (in Swedish)	
	- MPH thesis, 20 points	
	Basic support	200 000
	International summer course in Epidemiology and field research methods	130 000
	Alkohol, droger och samhälle	121 000
	Research methodology, 5 points	120 000
	Advanced biostatistics, 5 points	35 000
	Biomedicinsk grundutbildning, 5 poäng (in Swedish)	150 000
	Läkarutbildning	1 056 000
Sida/SAREC	International summer course in Epidemiology and field research methods	470 000
	Support for printing of course literature	250 000
STINT	Scholarship for the MPH programme	645 000
Sida	Minor Field Studies (MFS)	146 000
East-European Committee	Scholarships	333 000
County council	Scholarship for MPH studies	250 000
	Scholarship for PhD studies	150 000
Total		**6 060 000**

Special events during 2003

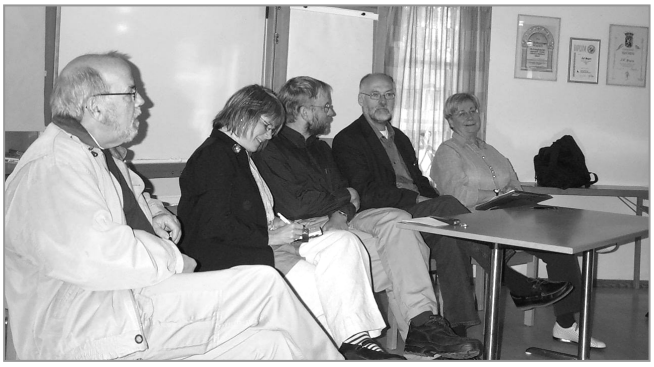
Inauguration of the second floor



Lennarth Nyström lecturing for Associate Professorship, September 11



Licentiate thesis defence by Nils Oscarsson, November 28



Excursion to Skaraborgsinstitutet, Skövde May 8-9

Our staff meet with new MPH students in Bäcksjön in October

Staff

Stig Wall. Professor of epidemiology and health care research and head of the division. Epidemiologist with a social science background. Research on epidemiology and international health, environmental and social epidemiology, prevention and medical technology assessment. Chief Editor, Scand J Public Health.

Urban Janlert. 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.

Ann Öhman. Med Dr, physiotherapist, senior lecturer. Deputy Head of Division. Studies on socialisation and professionalisation in health care from a gender perspective. Also attached to the unit of Physiotherapy.

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

Monika Appel. Social scientist and research student. Doctoral studies on the project ”Creative competition or hampering hierarchy – a study concerning the academic working environment focusing on the doctoral student”.

Erik Bergström. Associate professor of epidemiology and public health. Head of the Pediatric Clinic in Västerbotten County and the School Health Services in the municipality of Umeå. Research on child and adolescent health. Also attached to the Department of Paediatrics.

Peter Byass. Guest Professor in international health, with particular responsibilities for supporting the field laboratory sites in Ethiopia (Butajira) and Vietnam (Bavi), as well as some teaching in Umeå. Works mainly on the epidemiology of tropical infectious diseases and the implications for health services in developing countries, with an increasing focus on the current epidemiological transition in such circumstances. Also attached to the School of Community Health Sciences at the University of Nottingham, U.K. and the IMMPACT Project at the University of Aberdeen, U.K.

Kjerstin Dahlblom. MPH. Part time administrative assistant in the collaborative project on reproductive and child health in Nicaragua. Doctoral studies on children's perspectives of caretaking in León, Nicaragua, with a qualitative and quantitative approach.

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. Also attached to the Department of Sociology.

Kerstin Edin. RN midwife, Master of Public Health. Doctoral studies on violence against women during pregnancy. Also affiliated to the department of Obstetrics and Gynaecology.

Curt Edlund. Adjunct senior lecturer in Public Health and social worker. Studies in sick-listing and vocational rehabilitation and on causes of high incapacity rates and flexible sick leave. Also attached to the Social Insurance Office.

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

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. Lecturer, qualitative methodology and medical sociology. Managing Editor of Scand J Public Health. Doctoral studies on perceived health in a public health perspective. Also part of the department’s bilateral collaborations with Tanzania (Kagera AIDS Research Project), Ethiopia (reproductive health studies) and South Africa.

Malin Eriksson. Social worker, Master of Social Science. Research assistant in the project "Urban design". PhD studies on "social capital and health promotion".

Stephen Goldin. Physician. Doctoral studies on refugee children from Bosnia-Herzegovina. Also attached to Child and Adolescent Psychiatry.

Kerstin Hultén. Dietician, Master of Public Health. Doctoral studies on breast cancer and nutrition among women in Västerbotten. Licentiate seminar in November 2001. Also attached to the Unit of Nutritional Research.

Anna-Karin Hurtig. MD, DTM&H, DrPH. Lecturer in epidemiology and 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.

Joakim Isaksson. Master of social science with a major in sociology. Project assistant. Involved in the project "Evaluation of school support for students with special needs". Also attached to the Department of Social Work.

Anneli Ivarsson. MD, PhD. Senior lecturer in epidemiology. Specialist in Paediatrics. Research mainly on celiac disease, and responsible for the National Swedish Register in Children. Also an interest in Child Health, and of research within that area. Attached also to the Research and Developmental Unit of the County Council.

Helen Johansson. Physiotherapist. Planning doctoral studies in development of health promotion within the health care system.

Karin Johansson. Programme administrator for the International School of Public Health. Guest student co-ordinator.

Ingela Krantz. MD. Adjunct professor in public health and infectious disease epidemiology. Research on female genital schistosomiasis, herpes infections and ethics in public health interventions. Acting director at the Skaraborg Institute for Research and Development, Skövde and head of the Epidemiology unit at the Västra Götaland Regional Board of Health.

Carina Källestål. Adjunct senior lecturer, paediatric dentist. Head of Evaluation Unit at the National Public Health Institute. Research on dental epidemiology and prevention. Co-ordinator for the bilateral project on reproductive and child health in León, Nicaragua.

Barbro Larsson. Administrative assistant working with the library and also involved in the project about academic working environment.

Torbjörn Lind. Pediatrician. - Doctoral studies on micronutrients, especially iron and zinc supplementation during infancy and childhood in Sweden and Indonesia. Also holds a position as resident physician, Department of Pediatrics, Umeå University Hospital.

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

Lena Lundström. Med Dr, physiotherapist. Research on rehabilitation in light of different theories of health.

Curt Löfgren. Senior lecturer in Economics. Doctoral studies in health financing, particularly the role of peoples' preferences when introducing health insurance in third world countries.

Göran Lönnberg. Statistician, research assistant. Involved in the projects: "The Diabetes Incidence Study in Sweden (DISS)" and "Urban Design".

Ingrid Mogren. MD, PhD, Gynaecologist/Obstetrician. Studies on foetal origins of adult disease, second generation studies on pregnancy and delivery complications. Studies on pelvic pain during and after pregnancy - prevalence and psychosocial significance. Also attached to the Department of Obstetrics and Gynaecology.

Lena Mustonen. Editorial assistant of Scand J Public Health. Info manager (the Internet pages, UISPH newsletter and Annual Report). Also working with course administration and projects on childhood diabetes epidemiology. IT-responsible at the department of Public Health and Clinical Medicine.

Anita Nilsson. Project administrative assistant. Involved in the projects on obstetrical epidemiology, the study on early risk factors for cardiovascular diseases in adulthood and the collaborative studies on dental research.

Maria Nilsson. BA Social work. Doctoral studies on "Health interventions targeting young people - to prevent the use of tobacco". Also attached to the department of Community Health at the County Council.

Margareta Norberg. MD, General Practitioner. Doctoral studies on early risk markers for the development of type 2 diabetes mellitus.

Lennarth Nyström. Associate professor, Senior lecturer in biostatistics. Research is focused on the evaluation of mammography screening. Other research includes epidemiological studies of asthma, diabetes, epilepsy and multiple sclerosis. Also involved in studies of reproductive health in Zimbabwe and Tanzania.

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

Måns Rosén. Adjunct professor, epidemiology and public health. Research on register-based epidemiology, regional epidemiology, health services research, health economics and assessment of primary prevention. Director of the Centre for Epidemiology (EpC) at the National Board of Health and Welfare.

Klas-Göran Sahlén. Nurse, MPH. Research studies in the area of aging and social capital.

Miguel San Sebastian. MD, PhD. Lecturer in epidemiology and public health. Research areas: Environmental epidemiology, indigenous health (Amazon region), and health impacts of globalisation processes.

Maria Sjölander. Pharmacist, MPH Research studies on the epidemiological transition. Involved in the Vietnamese collaboration. Also teaching at department of Clinical Pharmacology.

Barbro Skog. Course administrator within the undergraduate medicine programme. Reponsible for the department's library and 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. Senior lecturer in biostatistics. Statistical consultant in several epidemiological and medical research projects. Director of research training.

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

Lars Weinehall. Associate professor, family physician. Research on the role of Primary Health Care in prevention, CVD epidemiology and health services research. Also attached to the Department of Community Medicine at the County Council.

Maria Wiklund. Physiotherapist with a special interest in body awareness, "body-mind" and "social body". Planning studies on prevention of psychosomatic and stress related problems in children, gender perspective.

Anna Winkvist. Professor, nutritionist. Quantitative and qualitative research on women's health and nutritional status in Sweden and developing countries. Coordinator for the research and teaching exchange program in epidemiology and public health with Gadjah Mada University, Indonesia.

Birgitta Åström. Administrator in research and education. Project administrator for the research and teaching exchange programme with Indonesia. Guest student co-ordinator. Responsible for STINT-scholarship students and MFS-students. Course administrator for research courses. Representative for the working environment at the department.

2. SUMMARISING SOME RECENT PAST AND THE EXPECTED FUTURE

An important characteristic of our research and teaching activities is a global health perspective. This means an attempt to approach public health issues locally and nationally in Sweden as well as in international collaborative projects in Africa, Asia or Central America. Our epidemiological methods are universal despite the different contexts. Most research teams in research projects have included a mix of competencies, which is also reflected in the different research methodologies employed. Studies of HIV/AIDS in Africa, of sexual and reproductive health in Africa and Central America and of community interventions in northern Sweden have been performed by use of epidemiology, qualitative methods, application of health economy etc. Similar representation of different competencies have been included in the collaborating teams in Africa, Asia and Central America - where collaboration between disciplines is often even more rare than in the Swedish university setting.

One major challenge to a global understanding of public health is the continuing disparity in sources of health information between richer and poorer settings. Scandinavia is well known for its long-standing individual registration, yielding data that can be a powerful tool for public health. At the other extreme, many countries (particularly in sub-Saharan Africa) still have no routine system for collecting even basic birth and death data on a population basis. Thus crucial data are often unavailable, or based on unrepresentative urban health facility settings.

Thus we have been closely involved with the development of ***epidemiological field laboratories*** that can provide insight into the health of otherwise undocumented communities. Our specific collaborations in this respect include work in Ethiopia, Vietnam, Indonesia, Nicaragua and South Africa, as well as being involved from its foundation with the Indepth network, an international network of demographic field sites, currently with 34 member sites in 19 countries. This creates exciting new opportunities for sharing and exchanging health data between some of the world's poorest countries, as well as a platform for developing strategic and methodological issues.

Hence some important public health problems can be addressed. ***The epidemiological transition*** can be studied since the host countries are in different development stages. They also represent different health care systems which all have a great potential for improvement in the provision of health care more efficiently, accessibly and fairly. The field laboratories are ideal environments for small-scale trials and evaluations of health care reforms and public health measures.

Methodologically, the ***combination of quantitative***, large- scale surveillance analyses ***and*** in-depth, ***qualitative research***, is another significant characteristic of our work. This may be exemplified by projects on domestic violence in Nicaragua and on HIV in Tanzania. Both started from population-based studies on prevalence and risk factors. In-depth interviews and focus groups were then used to help understand how women coped with domestic violence and how villagers interpreted and lived amidst the HIV epidemic. The knowledge derived from the projects was enhanced by combining the two research approaches.

In national and international collaborations we have contributed to public health theory development and to the ***dissemination into public health practice.*** Our health economics research has demonstrated that the public is more sensitive to inequalities than health economists generally have believed. The research on domestic violence in Nicaragua formed the basis for a new law in the country and was also instrumental for the area now being on the public health research agenda. Studies on celiac disease have actively promoted revision of the national guidelines on breastfeeding and dietary advice regarding infants, which is suggested to have reduced the incidence of celiac disease in Sweden. This research programme has also contributed to the shift from a deterministic approach to a more multifactorial view on celiac disease in the research community, fostering prevention initiatives. We have coordinated the overview of the Swedish randomised trials on mammography screening. Results formed the basis for the European Guidelines and the evaluation of the Swedish service mammography screening programme constitutes a model for evaluating regional as well as national programmes.

Research on CVD ***community interventions*** has suggested that an active primary health care provider is a significant partner of the preventive structure. A number of PhD theses focusing on the Norsjö intervention illustrate that when the primary health care provider collaborates with other components in the local community, the preventive programme also potentially reaches lower educated groups at higher risks. This outcome is, as far as we know, one of the few demonstrations of a narrowing health gap between privileged and non-privileged social groups. The Norsjö programme was implemented across Västerbotten and more than 70,000 middle-aged men and women have participated in the Västerbotten Intervention Programme (VIP). Today VIP is an integrated part of the county primary health care services.

An integral component of the development of the international collaborations has been the ***International Public Health training***, starting from the training courses and workshops that made a springboard for the research. What started as short courses in epidemiological method has grown into the now International School of Public Health, taught in English and with major recruitment from abroad.

Umeå International School of Public Health and its MPH and PhD programmes constitute an infrastructure and lever for public health research collaboration, for comparative and implementation research in an increasing number of the third world countries, specifically through our coordinating role in Indepth.

The above forms the background and rationale for our recent designation as a ***WHO Collaborating Centre***. It also results from longstanding collaborations and informal links with different branches in WHO, especially with the its Department of Non-Communicable Diseases, as part of the MONICA study and in our capacity as temporary advisors and members of various task forces and priority committees.

We are also involved in research and research training in collaboration with a number of universities, departments or NGOs in the US and Europe and with other Swedish academic and public health institutions, e.g. the County Council in Västerbotten, the National Public Health Institute and the Epidemiologic Centre at the National Board of Health and Welfare. A common interest between these

stakeholders in identifying and ***assessing the health-promoting role of the health care system*** relates to several of the target areas for public health in Sweden.

In order to develop not only medical care but also the preventive work the County Council of Västerbotten has entered into an agreement with the Medical Faculty at Umeå University. This collaboration includes three senior posts at our division:

- A professorship in public health with focus on community health
- A senior lecturer in health care research with a focus on preventive methods and health promotion.
- A senior lecturer in epidemiology with focus on the health of youths and children

The County Council has also offered three doctoral posts: one on health economics, another on preventive methods and a third on public health work. Two scholarships for foreign doctoral students and two stipends for students from the new EU countries on master level are also funded by the County Council.

The long-term goal of our research programme, which tries to capitalize on the above milieu, is to ***contribute to theoretical and methodological development*** of the results and cost-effectiveness of public health interventions as well as their ethical and social consequences. Specifically we want to

- analyse the effects of socio-economic and environmental changes on illness and mortality
- contribute to the ethical platform of public health work
- develop and validate process-oriented alternatives to RCT for use in public health work
- analyse the social consequences of community oriented interventions, their potential use and harm
- develop the health economic analysis of assessing health equity
- assess the role of health care in health promotion and community interventions

A major global health challenge, in addition to the HIV trauma, is to counteract the ***emerging epidemic of non-communicable diseases in low-income countries***. Decades of research have suggested how to reduce their burden, but most information on lifestyle-related risk factors still comes from western countries. The challenge for the health services of a country with the dual burden of diseases is to complete the unfinished task of managing the diseases of poverty while simultaneously initiating prevention and cost-effective care. We will use NCD data as a basis for resource allocation in order to advocate a more cost-effective and fair organization for prevention and treatment. Even if NCDs are still relatively rare in the poorest communities, it would be a great mistake not to protect the coming generation from the known and well established risks. It would also be a methodological mistake not to be prepared to follow and influence the presumed rise of the NCD epidemic.

What, then, are the lessons from affluent populations now in the late stages of health transition, with declining cardiovascular mortality, for the prevention of cardiovascular disease in transitional societies? Will these countries pass through

the transitional phases experienced by the richer countries or may the early detection of the established risk factors potentially change their route?

We will explore the driving forces behind and consequences of the emerging epidemic of chronic diseases in disadvantaged communities by contrasting the changes in social and risk factor patterning and disease occurrence in rapidly changing societies with those in a community with a rapid decline in cardiovascular mortality (northern Sweden) and by reference to the historical evidence. Specifically we want to

- validate and implement a model of surveillance specifically to assess NCD risk factor occurrence
- assess NCD risk factor levels and trends and review the socio-economic and cultural changes in data-poor countries at different stages of the epidemiological transition
- assess mortality by cause of death through the validation and implementation of methods for verbal autopsy, specifically seeking to estimate the impact of NCD
- analyse the historical and current situation in Sweden to better understand and predict current trends in transitional societies
- develop common methodologies and to contribute to the theoretical modelling of the modern phases of the epidemiological transition.

Working across cultures and disciplines in an interplay with the community, the mutual exchange of views and knowledge is a development process for all involved.

Our ambition is to foster and sustain our international research and teaching environment. While using modern epidemiological strategies as well as qualitative approaches we retain a social and distributional perspective on health. This means that our international collaborative projects focus poverty related public health issues, e.g. reproductive health and the health transition and that Swedish research addresses inequality in health and the impact of prevention in different social strata. Analytical categories of importance in this regard are social class, gender, ethnicity, culture and age.

The study bases in the Swedish research are often national or regional registers and longitudinal cohort and case-referent studies while in environments lacking this infrastructure study bases are created through actual fieldwork in so called population laboratories. Research training is integral to these collaborations and when doctoral students can be recruited on both sides, potentials for much interdisciplinary and cross-cultural work emerge.

3. THREE PROBLEM AREAS - ON-GOING SWEDISH AND INTERNATIONAL RESEARCH

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 interventive programmes. Projects are therefore grouped under three problem areas; ***etiological***, ***social*** and ***evaluative*** research, briefly described below.

The first problem area

often starts from a specific disease or a suspected exposure. ***Etiological studies*** focuses on the relation of disease occurrence to social conditions and exposures to environmental and life-style related agents. In Sweden population-based registries of mortality and diseases enable analysis of changing patterns of mortality by geographical and social groups but also the surveillance of various risk environments. In developing countries such health information systems are badly needed. They may serve as guidelines for primary health care activities but also enable the assessment of disease trends and predict disease outbreaks.

The second problem area

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 addressed. The recognition of the key role of community participation for public health promotion is rather 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.

The third problem area,

where Swedish and development research share experiences concerns ***evaluative research***. Epidemiological methods are essential in evaluations of preventive measures like community intervention and individual preventions within the health sector as well as when assessing medical technologies and practices. Evaluations of health care measures aim at learning more about their efficacy, cost and ethics, adjusting health programmes accordingly and improving the implementation of public health measures. In a Third World situation in particular, planning for health must be based on population knowledge, including the non-users of health services. Some applications are especially relevant. These relate to mother and child health, nutrition and infectious diseases, women's role in health care, and also to the evaluation of primary health care.

Etiological studies

A proper understanding of the etiology 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.

Sexual and reproductive health

Two generational analyses

Etiological research of long-term effects of reproduction on the mother and her offspring is a demanding and pressing issue. How are the reproductive competence and behaviour of the women related to genetic factors, socio-economy, environment, life style and health services? What possible long-term effects could there be in relation to pregnancy for the women, and how important could prenatal exposure be for the long-term health of the offspring? Two-generational analyses have been performed concerning pregnancy outcomes, delivery complications, low birth weight and long-term effects on risk of malignancy [74]. The role of prenatal influence on chronic heart disease is questioned, and this study could make a contribution to this yet unsettled research question**.** At present birth-cohorts of Västerbotten county 1955-1972 have been linked to adult screening activities in the MONICA and The Västerbotten Cohort. Birth characteristics and heritage have been analysed in relation to adult blood pressure, blood lipids, glucose intolerance and anthropometric measurements. The findings so far indicate that impaired fasting glucose and impaired glucose tolerance are related both to heredity and low birth weight [73]. We have previously shown that low birth weight is associated to hypertension in early middle age.

As an extension of the above mentioned cohort the ***"Västerbotten Mother-Child Cohort"*** will be established with the overall aim to study public health in relation to inheritance, pregnancy, foetal exposure, childhood, sex and gender, lifestyle and socioeconomic conditions. Approximately 6000 mothers and 8500 children (males and females) will be included in the cohort and followed from the first pregnancy (or the birth) up to at least middle age for both mother and offspring through collection of data from birth registers and the Västerbotten Intervention Programme.

Another example of register epidemiology within the reproductive field is the application of the unique Swedish vital statistics since the 18th century. Studies have assessed maternal and perinatal mortality in high mortality settings by different definitions, time trends and risk factors, and also the decline of perinatal mortality in relation to intervention by midwives assisting at home deliveries. Further analyses to assess long term survival of women in relation to bad obstetric outcome are in progress**.**

Pelvic pain during and after pregnancy

The prevalence of low back pain and pelvic pain (LBPP) during pregnancy has been reported from 25-90% of cases in different studies in the western world, whereas the prevalence among non-pregnant women is 20-25%. The aetiology is still unknown and the most prominent risk factor is experience of low back pain in a previous pregnancy. In collaboration between the Departments of Obstetrics and Gynaecology in Sunderbyn and Umeå, the prevalence and the risk factors for low back pain and pelvic pain during pregnancy have been investigated through a questionnaire with a prospective cohort-design. More than half of pregnant women developed LBPP during pregnancy and most cases reported both anterior and posterior pain [139].

Women with LBPP during pregnancy were characterized by higher pre-pregnancy weight and BMI, and end-pregnancy weight and BMI. Risk factors for LBPP were increasing parity, history of hyper-mobility and reported periods of amenorrhoea [139]. LBPP demonstrate a negative impact on perceived health and sexual life during pregnancy. A great majority of pregnant women were on sick leave some time during pregnancy and the rate of sick leave was increased among cases with a high score of pain due to LBPP [140].

The cohort has been followed up at six months and at 12 months after delivery, with a questionnaire investigating prevalent LBPP in the unpregnant woman. The aims are to investigate the prevalence of chronic LBPP, risk factors and specified outcome factors.

The quantitative research approach has been supplemented by qualitative in-depth interviews with pregnant women with ongoing low back pain or pelvic pain, and their midwives at the open ward. The interviews will explore the implications of the pregnancy-related complication on the woman's experience of her pregnancy, her family-situation, the need of health care, and assessment of the provided health care during the pregnancy. Another qualitative study will explore the health situation for women with chronic LBPP after pregnancy.

Studies aiming at investigation of hormonal and molecular associations with LBPP during pregnancy are in the planning phase and these studies will be conducted in collaboration with colleagues in different specialities.

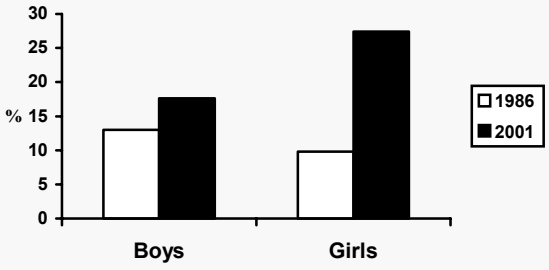
Gender power dynamics

Qualitative studies in Southeast Zimbabwe explored perspectives of men on women's sexual and reproductive health. In focus groups, men described how they view abortion and contraceptive use. Women confirmed that their husbands reacted violently if they discover contraceptives secretly. This scenario results in what is called "hide and seek", where men search for evidence of contraceptive use on one hand, and their wives use the contraceptives, on the other. Schoolboys and schoolgirls perspectives on sexual and reproductive health were studied through self-generated questions and statements. Their perspectives included fears and conflict of emotions and feelings in sexuality and premarital pregnancy within contexts of prohibition and silence [16]. Jeremiah Chikovore defended his PhD thesis in March 2004 (p. 82).

Chronic diseases in children and adults

Health in childhood and adolescence

Today there is substantial evidence to support the hypothesis that the atherosclerotic process leading to cardiovascular diseases (CVD) starts in childhood. Several international studies are trying to describe ***CVD risk factors*** in childhood and adolescence. The Umeå Youth Study, starting in 1989, is the first major Swedish study on this subject. The study is a prospective cohort study, using questionnaires, diaries, clinical and biochemical examinations, physiological tests, and medical registries. The study population comprises around 1000 adolescents in two age-groups, 14-and 17-years old, in the municipality of Umeå. In 1999 a 10-year follow-up of the initial study was performed when the subjects of the study had become 22 and 25 years respectively. The main focus of interest in this study is to follow the development of the CVD risk indicators, to describe if dietary habits, physical activity and tobacco use have changed when the adolescents have left home to live on their own and to explore the social stratification of the CVD risk indicators.



Increase in overweight prevalence in young school-children in Umeå, Sweden between 1986-2001

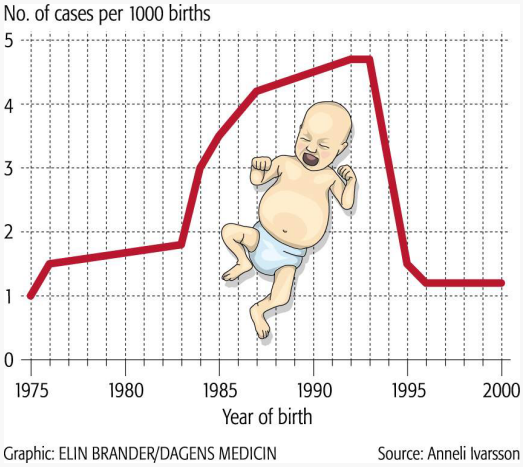
Obesity and pain symptoms may be regarded as ***"new morbidities"*** in modern society and are becoming increasingly prevalent in adults and teenagers, however we know little of these health problems among younger schoolchildren. In an epidemiological study among 6-13 year old children in Umeå we found that the proportion of children classified as overweight was 23% (doubled in 15 years [81]. The prevalence of pain symptoms (headache, stomach-ache, backache at least once a week) was also 23% [80]. In an ongoing study on mental health among children 9 and 12 years of age, the relationship between mental health on the one side and overweight and pain symptoms on the other will be explored further.

Nickel allergy is a common cause of hand eczema. Ear piercing usually induces this allergy. Preliminary findings indicate that straightening irregular teeth with nickel containing metal braces may prevent the induction of nickel allergy. A case-referent study of nickel-sensitised teenagers and referents has started. Nickel allergy is verified by testing, and previous use of brace and skin piercing is recorded. Preliminary results show that the prevalence of ear piercing among girls has not increased during the last decades. Among boys, however, there is a marked increase. Piercing on other locals than 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.

Celiac disease – a new public health problem

Celiac disease, also called gluten-sensitive enteropathy, is an immune-mediated disease triggered in genetically susceptible individuals by ingestion of gluten containing foods. Effective treatment is available through lifelong exclusion of all foods containing wheat, rye and barely. However, untreated the negative health consequences are extensive.

Celiac disease has emerged as a new ***global public health problem***. In Sweden this has been most evident by an epidemic of symptomatic celiac disease in young children, which has no resemblance in any other part of the world. As a consequence celiac disease is now the most common chronic nutritionally dependent disease in Swedish children.



The Swedish epidemic of celiac disease in children below two years of age

We are responsible for a prospective ***incidence register*** of celiac disease in children that now has an almost ***nation-wide coverage***, and a follow-up until 2003 is ongoing. So far Sweden is the only country with an epidemiological surveillance of celiac disease, which gives a unique opportunity to evaluate changes in disease occurrence over time, and facilitates further studies, e.g. linkage to other registers, case-referent studies, clinical follow-up studies, etc.

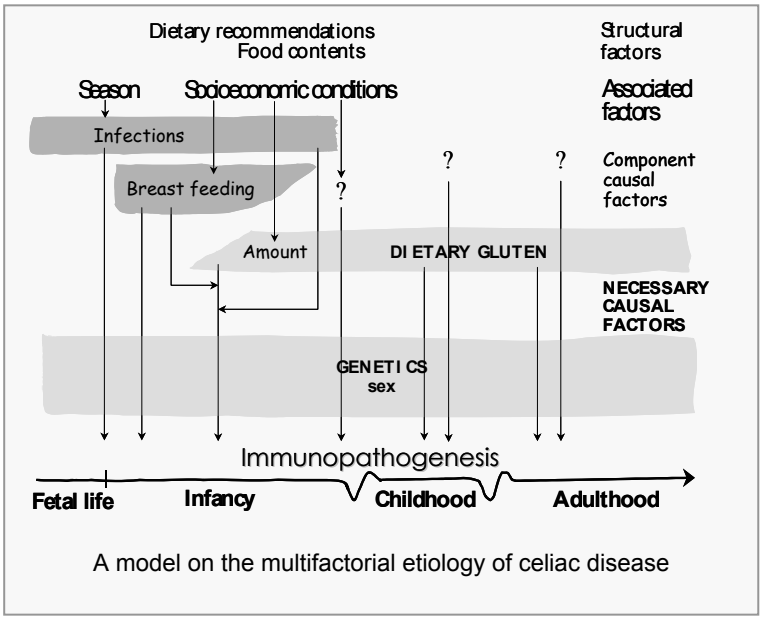
We have performed a ***multicenter incident case-referent study*** (627 cases & 1254 referents), and combined this with an ***ecological*** approach exploring any temporal relationship between changes in incidence rate over time and changes in suggested etiological factors. Thereby we demonstrate that half of the celiac disease cases during the epidemic might have been avoided if all infants had been introduced to gluten in small amounts while still being breast-fed [118, 119], a finding contributing to revised Swedish infant feeding recommendations. Moreover, we have shown that children born in summer have increased risk for celiac disease, which further emphasis the importance of environmental exposures in the etiology [51]. We now focus our analyses on the potential impact of early infections and immunisations in disease etiology, also considering differences in the families' socioeconomic situation. Moreover, growth of celiac disease cases and referents are compared during their first half year of life, thus, before gluten introduction, to identify any signs of early "programming". Interestingly, the epidemic affected girls more than boys [52], an area to be further explored.

We suggest a ***multifactorial etiology*** to celiac disease where an individual's genetic makeup and exposures of the environment throughout life jointly shape the immunological response to dietary gluten. Primary prevention might thus be possible by a change in component causal exposures, thereby increasing the chance for infants to develop oral tolerance to gluten, and possibly also promoting

the maintenance of tolerance throughout life [119]. However, the search for casual environmental exposures has just started.

A ***multicenter screening*** for celiac disease is planned among 12-year old children born during the epidemic and post-epidemic years, respectively, with the aim to compare the prevalence in these cohorts, both of symptomatic and so called "silent" disease. The screening will be evaluated for feasibility, cost-effectiveness, and the experience of children and parents. General screening also among adults should be evaluated, and the ongoing health survey in the county of Västerbotten would be an excellent framework for such an effort.

Celiac disease is diagnosed by assessment of the small intestinal mucosa; however, analyses of ***serological markers*** facilitate this process. Based on the multicenter case-referent study we evaluate the most promising markers, i.e. antibodies towards gliadin, endomysium and human transglutaminase, also considering the potential role of HLA- (humane leukocyte antigen) typing.



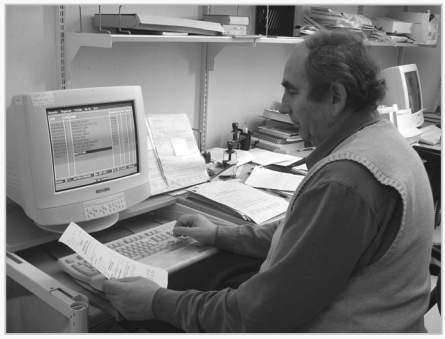
A model on the multifactorial etiology of celiac disease

The recommended gluten free diet might have unnecessary negative health consequences. We therefore plan a study on food choices, nutrient intake and nutrient status, also approaching social consequences of the disease and the diet.

The "Swedish case" has promoted a discussion on whether primary prevention of celiac disease is possible or not. We take actively part in the planning of ***European collaborative studies*** aiming at clarifying this by involving scientists knowledgeable within different aspects of celiac disease research as epidemiology, paediatric and adult gastroenterology, nutrition, immunology, genetics, cereal chemistry, food processing etc.

Celiac disease is present in all gluten consuming societies, and according to screening studies an often unrecognized contributor to the disease burden also in third world countries. Thus, there are reasons to add celiac disease to the public health research agenda worldwide.

Nation-wide diabetes registration



Working with registration of incident cases

In 1977 a nation-wide 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, and is the basis for population-based studies for the identification of genetic, immunological and environmental risk determinants for the disease.

In 1983 a similar nation-wide 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 endocrinological departments and public health centres in the country. Up to December 2003 7,900 cases (approximately 400/year) have been reported, of which 73 percent have been Type 1 diabetes, 17 percent Type 2 diabetes, 1.3 percent secondary diabetes and the remaining 9.1 percent unclassified.

For the period 1983-1998 the two diabetes registers were merged to be able to estimate the cumulative incidence of Type 1 diabetes. Based on 11,751 cases the cumulative incidence at 35 years of age was 748 per 100,000 for men and 598 per 100,000 for women. During the 16-year period the incidence of Type 1 diabetes did not increase, while the median age at diagnosis decreased.

Through a 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. Diabetes was reported as the underlying cause of death in 51 cases (32%), and as 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 has been followed up in the 1987-88 year cohort. Out of 806 cases reported to DISS 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 diagnosiswas 39% (Mild 33%, moderate non-proliferative 4.8% and proliferative 1.8%) [41]. Nephropathy was possible to assess 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 [101].

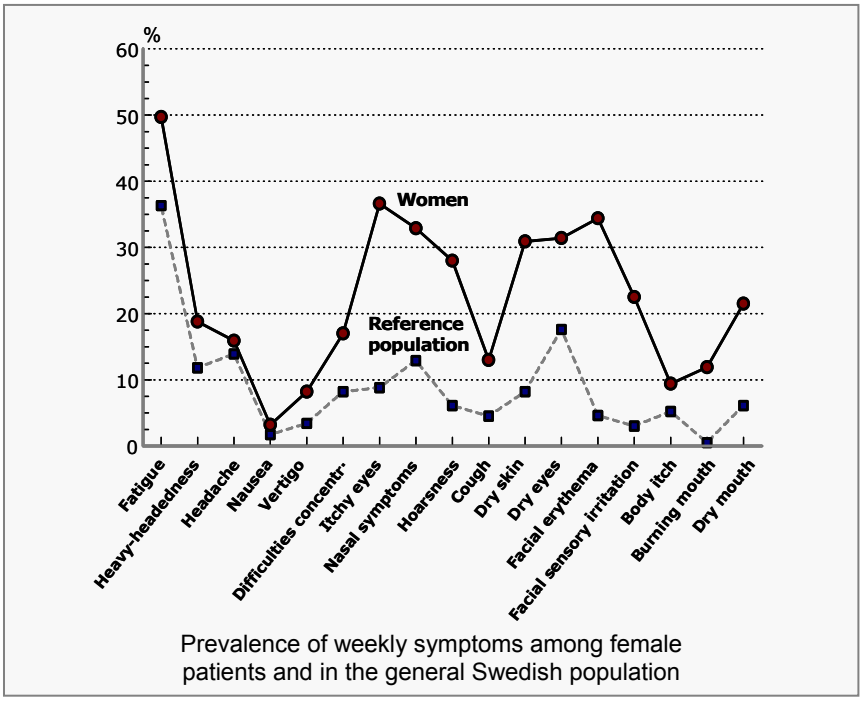
Obesity is an increasing public health problem. Body mass index increased significantly between 1983 and 1999 in incident cases of type 1 and type 2 diabetes from 21.2 to 22.5 and from 27.4 to 32.0 respectively [67].

The occupational and living environment

Sick building syndrome

During 1994 the Office Illness Project in Northern Sweden was finalised. 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. With 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 air-born chemicals.



Prevalence of weekly symptoms among female patients and in the general Swedish population

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 was recently initiated. 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 [29].

With the aim of developing better care and action programmes for patients with the above mentioned types of "environmental illnesses" our studies are focusing on personal, psychosocial and environmental prognostic factors. 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 favorable 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 in self-image and coping resources.

Indoor pollution in Ethiopia

The ***effect of indoor exposure to biomass smoke*** on childrens' 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, unvented fireplaces. The smallest children in particular, whose ARI mortality is the highest, can be extremely highly exposed 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 specific background of the planned study is a previous finding in the BRHP that ARI is one of the major causes of death among children in the Butajira district. Among the factors that are most strongly related to total under-five mortality are lack of windows in the home, living in the traditional Tukul hut and cooking fires in the house. These factors would all be directly related to exposure to indoor air pollution, but also indirectly to other risk factors. A pilot study performed during the winter 1995-6 indicates that the variation both in the cooking/burning times and in children's indoor/outdoor activity patterns will give sufficient exposure variation for an epidemiologic study. The study is a prospective case-referent study of ARI morbidity, with exposure assessment done in cycles for all households with under-five children throughout the eighteen month follow-up. Nitrogen dioxide will be used as a marker for smoke and measured by passive sampling.

In 1999, study planning and training of laboratory staff in the Medical Faculty of Addis Ababa University for the air pollution analysis was completed. During the early months of 2000, field enumerators, 1-2 for each village, were trained for interviewing, air pollution sampling and data collection in the field began. In each of the villages included in the study, the local health worker at the Health Post was trained in lower tract ARI case identification and treatment and in the routines of case reporting to the enumerators. The Health Posts were stocked with basic drugs (not only for ARI) for free treatment of all children under five.

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. By the end of the year, more than 500 cases had been treated and interviews performed with their mothers and with mothers of under five referents (4 per case) randomly selected from the BRHP demographic surveillance data base. 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 4,900 incident referents has been collected from their mothers. Throughout the follow-up period, quarterly interviews with all

mothers of children under five have generated longitudinal information on exposure and a number of background factors relevant to the study. At the same time, samples of NO2 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 2003, as well as most of the data quality control.

The health impact of oil exploitation in the Amazon basin of Ecuador

During the last 100 years, the developed world has been built around the applications of crude oil. The dependence on this natural resource has led to climate changes and destruction of fragile ecosystems.

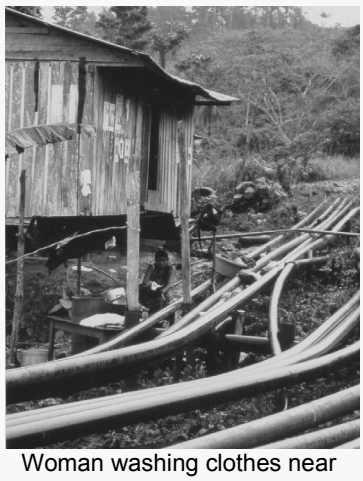
Oil is a major source of income for Ecuador and has, since the 1970s, been the engine of the economy. Most of the oil comes from the northeastern part of the country, the Amazon basin. Since the beginning of oil exploitation, foreign and national oil companies have extracted more than two billion barrels of crude oil from this region. In this development process, billions of gallons of untreated wastes, gas and crude oil have been released into the environment.

Indigenous child playing beside an open pond with oil toxic wastes in the Amazon

In the last few years, research has been conducted to assess the potential health impact of oil pollution in communities living near oil fields. Results from these studies show that women living in exposed communities have higher rates of physical symptoms and spontaneous abortions than women in control areas. Recently, a significantly higher incidence of all cancer sites combined has been documented in both men and women in counties where oil exploitation had been on going for at least 20 years. An increase in haematopoietic cancers has been observed in children [44]. To prevent further negative environmental and health impacts from oil development in the Amazon region of Ecuador and other developing countries, specific interventions have been proposed [90].

In 1993 a lawsuit was filed against one of the oil companies (Texaco), which had worked for more than 20 years in the area. About 30,000 indigenous people and peasants claimed that the oil company had caused irreparable damage to the rain forest. During the trial in Ecuador in October 2003 the above studies were presented.

In the same region, an ongoing collaboration with primary health programmes has led to community based studies on nutritional status of indigenous children under-five [11], anaemia in schoolchildren [83] and the use of pesticides by farmers [43].



Woman washing clothes near the oil pipelines in the Amazon region of Ecuador

A surveillance site in Nicaragua

The Centre for Demographic and Health Research (CIDS) in León, Nicaragua was set up in 2002 with the objectives 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, as well as a resource for health services. The centre is run by researchers with training from our department in Umeå and is a result of more than ten years of collaboration financed by SAREC. The overall objective for the bilateral project "Reproductive and Child Health (RCHP)" has been to create a sustainable group of researchers at the Medical Faculty in León. The planned research is etiological and intervention studies with training as a main goal.

Project meeting at CIDS

The research, interventions and training are all reliant on the ***Demographic Health Surveillance System (DHSS)*** initiated in the end of 2002 in the municipality of León, where the first round (base line) was finished in February 2004. It comprises 8 000 households in the urban area and 3 000 households in the rural area, with a total of 11 000 households i.e. around 55 000 people. The data-base system with the GIS-technique to map all households has been further developed to secure quality in data collection, storing and handling.

The surveillance system generates basic health data (vital statistics), supplies information for planning, serves as a background sampling frame for investigations, and constitute a setting for epidemiological training. Specific intervention studies are on-going within the areas of pregnancy and violence, children as caretakers, and suicidal behaviour. A community based study using DHSS has been conducted where more than 800 adults in the study base have been interviewed by means of an 'ATTS' questionnaire which measures attitudes to suicidal behaviour. This instrument has been used in several international studies, which allows for cross-cultural comparisons. The overall aim is to establish a platform for community interventions in Nicaragua regarding suicidal behaviour. Studies are planned on risk factors for non-communicable diseases, sexually transmitted infections, HIV infection and infant mortality. We are also preparing for new studies utilizing the DHSS on risk-factors for gastro intestinal disorders and for other non-communicable disease where masters students will be involved.

The CIDS now serves as a research training centre for the whole university of León and the health sector (MINSA). CIDS have evolved to be a referral center for interventions made by NGO's, student's training, and research cooperation within and outside the country. Collaboration with one of the oldest surveillance sites in the world, Matlab in Bangladesh, has been established, and also with the Lund Technical University (LTH, School of Engineering at Campus Helsingborg)

on the computer science part of organizing data and securing data quality. Membership of the network for demographic surveillance sites ***INDEPTH*** has been accepted and will be established in a meeting in Vietnam in May 2004. From the DHSS, data will be collected for three doctoral theses as well as for MPH theses.

Masters training was established and approved of by the UNAN, León during 2003, and the first courses in Epidemiology and Biostatistics were completed during 2003. Training is on-going for four PhDs within the project, with the main focus on violence during pregnancy, suicide attempts among adults and adolescents, and injury prevention. Connected to the project, but not financed through SAREC, a fifth PhD concerning children as caretakers is in progress. We expect in the near future to recruit at least two new research students among the Master students presently at the centre.

A baseline for an intervention among girls 10-11 yrs in Managua on sexual behaviour in order to prevent teenage pregnancies has been performed in cooperation with the NGO's PATH (US) and Puntos de Encuentros (Nicaraguan). Another base line study for a media based intervention on sexual behaviour to prevent teenage pregnancies and insecure abortions was performed by the CIDS in three cities in Nicaragua (Esteli, Juigalpa, León) in cooperation with the same NGO's as above.

Swedish doctoral students´ experiences

Providing higher education for future researchers is one of the main tasks for universities. Within the next ten years many researchers who are active today will retire. It is therefore important to secure a coming generation of researchers.

A new research reform was established in 1998 in order to increase the rate of flow in postgraduate studies and to reduce the amount of time spent on research training . The time taken to complete a PhD should not exceed four years of full-time study, and the prospective student should have funding for their studies and an individual syllabus. This puts more demands on universities, and the department's responsibility when accepting a new research student is emphasised. An important component that may have an impact both on the amount of time spent on completing a PhD and on the coming generation of researchers is how students today experience their working conditions. One of the main aims of this project is to explore this matter.

An extensive pilot study was performed in Umeå in 1999, which included students accepted before as well as after the new regulation. Results show that interest in working at the university after receiving a PhD was about as great for women as it was for men, although significantly fewer women continue. Different aspects of insecurity (financial, one's own capacity, and about unwritten rules), difficulty in combining an academic career and a family, as well as negative experiences, were some of the obstacles mentioned. The positive side of being a

doctoral student that were described included intellectual development and an experience that the work gave them a good chance for in-depth study in a special field. Many mentioned freedom, but often as a kind of Janus face (two-faced) freedom. They emphasised the advantages of freedom in doing research, but maintained at the same time that this freedom also meant that there was no clear dividing line between work and leisure time, and the women in particular felt this stress [4].

An important factor for successful studies is the relationship between the doctoral student and his/her supervisor. Within the project a quantitative as well as a qualitative study, comprising doctoral students as well as supervisors at Umeå University, was carried out. The study shows that at the same time as the framework for postgraduate studies in Sweden has become more homogeneous, the working conditions of doctoral students are still, to a considerable extent, heterogeneous. There are great differences, ranging from how far the doctoral student has actually got in his/her research programme at the time he/she is accepted to widely differing working conditions for different people in different projects. All this affects the research supervision, which in turn varies considerably from supervisor to supervisor, from department to department, and also between faculties and different kinds of projects. In general the study shows that a large majority of the doctoral students felt that the research work itself was interesting and that their main supervisor showed great interest in their research work. In spite of this, a large number of students, especially female students, had seriously considered giving up their studies. One of the most common reasons for these considerations had to do with the relationship with the supervisor. Both doctoral students and supervisors felt stressed as regards bringing the work on the thesis to a successful close, and the supervisors who were interviewed expressed thoughts about how much they should intervene and either ‘apply the brakes’ or ‘step on the gas’. Nevertheless, the pleasure of supervising stood out in the interviews with the supervisors, and research supervision was quite often described in words as “exciting”, “developing” and “instructive” [114].

Social epidemiology

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 may be identified which have a special bearing on social epidemiology. Some may also respond to the international health policy research agenda being developed to meet emerging health problems and the ongoing epidemiological transition.

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.

An encouraging trend this year has been increasing networking between investigators in various countries, not least through the *INDEPTH network* (of which our collaborating field surveillance sites in Ethiopia, Vietnam, Indonesia,

Nicaragua and South Africa are members). In November 2003, we helped to facilitate an INDEPTH workshop on SQL data management at the Africa Centre in KwaZulu Natal.

We were also involved with the INDEPTH scientific meeting in February 2003, hosted in Accra, Ghana, which provided a further forum for international collaboration. Discussions are underway concerning common-core surveillance of NCD risk factors during various stages of the epidemiological transition in Ethiopia, Vietnam and Indonesia, in collaboration with the WHO/NCD surveillance programme, following a successful application to FAS for research funding in this area.

Our collaboration with the Community Health and Nutrition Research Laboratory (CHNRL), Gadjah Mada University Yogyakarta in the Purworejo Demographic Surveillance Site (DSS) has played an important role in providing accurate demographic and epidemiological data for evidence based policy making at district level. Results from the demographic surveillance and different studies conducted in collaboration with us have been utilized for district health planning during the last 10 years, especially in the field of mother and child's health and nutrition. Along with the epidemiological transition, our collaboration with the Purworejo DSS has been expanded into the field of non-communicable disease (NCD) and its risk factors.

Together with the CHNRL Gadjah Mada University Yogyakarta, and WHO, we are monitoring trends in important risk factors for non-communicable diseases over a 3-year period in Purworejo District during 2001-2004. Baseline age validation and NCD risk factor data collection, including smoking and alcohol consumption, physical activity, body mass index, waist hip ratio and blood pressure was conducted during the period September 2001 until February 2002. Verbal autopsy was conducted for all death cases identified in regular surveillance since 2000.

The baseline data showed a high prevalence of smoking (53.4% for males and 2.2% among females). Older females used more smokeless tobacco ("nyusur" in Indonesian). The overweight prevalence was as high as 20% in females, and women were considered to lead a sedentary lifestyle. Both smoking and obesity are considered as major risk factors for many non-communicable diseases. This was confirmed by the verbal autopsy data which showed cardiovascular disease, stroke and chronic obstructive pulmonary disease as the three leading causes of death in the year 2000. The results clearly showed the multiple burdens of NCD risk factors among the Indonesian population. Future research should be directed toward tailoring various community interventions to reduce the risk factor burden.

A new grant from SIDA/Sarec for bilateral collaboration with South Africa will also facilitate further networking to explore surveillance methods and transitions in public health.

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 approximately 38 000 since 1987. Currently work is underway, not only to assess the current situation, but also to evaluate longer term trends. 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**.** However, factors of deprivation, such as illiteracy, are still associated with up to 50% higher mortality**.** Nevertheless, death is typically occurring later, and often from causes other than infection. HIV infection remains at a relatively low level in rural Ethiopia, but we hope to assess this in more detail in the near future in order to set it alongside other trends. In particular, the possibility of increased HIV transmission from urban to rural communities in this predominantly rural country remains as a major threat. Child bearing and maternal health also persist as major problems, with maternal mortality estimated to be as high as 700 per 100,000 live births. Inequality of access to health services, largely determined by geographical and infrastructural factors such as transport, continues to be a problem in this context, and we hope to implement an intervention to reduce maternal (and possibly other acute cause) mortality through improved access. 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. There are now an increasing number of specific research problems being addressed by external projects using the study base as a platform and research infrastructure. In addition, every year a number of post-graduate trainees from Addis Ababa University's Master of Public Health programme undertake field studies in the area.

In 2002 the BRHP entered into a new three-year cycle of Sida/SAREC support, if with some delay due to administrative problems. Of the new activities included in this cycle, a linkage between the newly opened hospital in Butajira town and the BRHP population database has been initiated. This is hoped to provide hitherto unavailable information on health care utilisation as well as on morbidity in the population, while at the same time providing services, both technical assistance and vital statistics, to the public health care system in the district.

Team of interviewers and research staff in Butajira

A study of ***Women's health and Domestic violence*** is presently ongoing within the BRHP infrastructure, including qualitative studies about attitudes and perceptions of the problem, a cross-sectional survey of the prevalence among women in reproductive ages and its association to mental health, and a study of the association between exposure to domestic violence by the mother and the survival of the children. The study follows the core protocol and questionnaire used in a WHO multi-country study performed in different parts of the world but also includes an additional part for screening of mental disorders (CIDI). The main data collection for the cross-sectional survey was performed during spring 2002 and the analysis is on-going. 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 basic results will be presented in a National Report [31] and will also constitute the basis for further analysis within two PhD projects by two Ethiopian collaborators.

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 90's, 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 in a qualitative study addressing the social, cultural and sexual behavioural determinants of the observed changes. The specific role of Non Governmental Organisations' preventive efforts targeting youth has been the focus of a Masters thesis [2003:8, p 83]. These studies both suggest major behavioural change that could be explained both by the severity of the epidemic and the following cognitive and emotional reactions, and also the diversity of intervention activities that have been on-going 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 epidemic itself is changing, as are people's response in terms of behaviour, attitudes and practices. It is therefore important that the longitudinal nature of KARP is utilized 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. Changes in norms, knowledge,

attitudes, perceptions, language and behaviour need to be studied to understand the development, both on the individual and community level. Thus, in the next bilateral agreement period we will re-visit those areas not studied since 1987 to assess if and why they have been protected from further spread. By also suggesting to test and to evaluate a participatory intervention strategy specifically targeting the youth the project hopes to contribute in developing culturally acceptable intervention tools.

The research training and capacity-strengthening component of the KARP has always been important. Research methodology courses have been developed and organised between the collaborating departments. Some courses have been part of the feedback of research results to the community to support local evaluation of on-going interventions. Recently new research students/researchers from epidemiology, as well as from social science, have been enrolled in the collaboration to broaden the research base on both the Tanzanian and Swedish side. A new field organisation has been set up in close collaboration with the Kagera Regional Hospital. A group of new field staff have thus been trained and a project co-ordinator employed to take the overall responsibility for the planning and implementation of the field work.

Public health and social change

Epidemiology can evaluate the impact of socio-economic and political changes in society on health. Active epidemiological surveillance of infant and under-five morbidity constitutes a valuable and sensitive indicator of socio-economic change, and has been found useful in distinguishing between sub-groups of the population which may differ in vulnerability.

The largest death toll during periods of crisis and warfare in low-income countries is usually among infants and children under five. Based on bilateral research collaborations with universities in Indonesia, Nicaragua, and Vietnam we are studying the consequences of rapid social and political change on the health of women and children.

For several decades ***Indonesia*** has experienced political stability and continued economic growth. Unfortunately, in July 1997 the country was thrown into the economic turbulence also faced by other Southeast Asian countries. There is strong interest from Indonesian researchers to evaluate the effect of the economic crisis on the health of the people in the region. Using different measures of economic strain (inflation rate, prices of staple foods, exchange rate of the Rupiah), we are evaluating the effect on food intake and morbidity among pregnant women. Women are categorised as peasants (landowners who sell rice), small landowners (families owning small pieces of land and selling rice), share croppers (farmers renting land and selling rice), landless labourers (landless families who buy rice), and other workers (urban families working in non-agricultural sectors and buying rice).

Before the crisis the food intake of the pregnant women was already mainly plant-based, consisting of rice, nuts and pulses and vegetables. Only small amounts of animal protein were consumed and this decreased even further for all subgroups of women during the crisis. During the crisis, the price of rice increased. Even so the consumption of rice increased for all subgroups and especially so for those

selling rice. In this sense rice is a strongly inferior good for which the demand increases as the price increases. Urban poor and rural landless labourers experienced a decrease in intake of most nutrients. Iron status of these groups deteriorated [39, 40].

The 2003 workshop participants in Ha Long Bay

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 70 km from Hanoi. It's purpose is to give a perspective on a local population's demographic and health status as well as monitoring on-going changes. FilaBavi is a joint effort with the Vietnamese Ministry of Health, the Hanoi Medical Faculty and the Health Strategy & Policy Institute, in collaboration with ourselves and IHCAR at the Karolinska Institute. The annual workshop was held in Ha Long Bay in October 2003 enabling research students, supervisors and donors to exchange ideas and experiences. This coincided with the publication of a Supplement of the Scandinavian Journal of Public Health, containing a series of research papers originating from FilaBavi [14, 15, 19, 37, 45, 46, 47, 60, 72, 103].

Public health and equity

In the public health field, social epidemiology is focusing on evaluation of public health programs, with special emphasis on ***equity*** questions, in order to promote development of strategies which will help to diminish the health divide.

Population-based research on ***domestic violence in relation to women's health*** has taken place in both Nicaragua and Indonesia [153]. In both countries, one out of three women had ever experienced physical and/or sexual violence within the marriage. Current violence was significantly associated with chronic energy deficiency among the women. Further, current violence and violence ever were significantly associated with higher parity. Nicaraguan women with experiences of current violence had significantly shorter breastfeeding periods, postpartum amenorrhea and birth interval. However, among Indonesian women, few significant effects of violence ever or during pregnancy were seen on pregnancy weight gain. In sum, domestic violence is associated with poorer maternal nutritional status and less optimal childbearing patterns.

In Nicaragua, preliminary results of a case-referent study indicate that physical abuse of the pregnant woman is one of the most pronounced risk factors for chronic growth retardation among the offspring. A case-referent study of violence during pregnancy also shows that physical abuse of pregnant women is an independent risk factor for low birth weight (LBW). Besides the fact that it was common to be born before the 37th gestational week among LBW babies, they were also more frequently presenting growth restriction in utero, suggesting a causal link between abuse and intrauterine growth restriction. Also, ***inequity in child survival*** is evident between the rich and poor, educated and uneducated, urban and rural areas [112].

A qualitative study is on-going where ***children's perspectives*** on their every day lives ***as caretakers*** in León, Nicaragua, are explored with the aim of identifying and targeting the most urgent needs and problems these children experience. It focuses on the health of caretaking children, ages 6-17, and siblings in their care. Their knowledge, feelings and actions concerning caretaking will be highlighted. The involvement of children in the research process is an overall aim of the study. Different methods to involve children will be tested and adjusted to this particular group of children and their setting [129].

City of León

In February and November 2003, a selection of activities described in "Children's protocol for participatory research" was tested in León with a group of teenagers. Seven girls and two boys, all experienced caretakers and in the ages 15 to 17 years, participated at both occasions. The protocol comprises semi-structured activities and games focusing on key themes in children's lives. Photographs taken by the participants, documenting their routine responsibilities in their every day lives, have been used as material for them to comment on and analyse, as have short narratives written by the participants and individual interviews.

To allow for influence from the participating children an emergent study design is essential. We plan to continue conducting activities with the same group of teenagers and involve them in carrying out activities with younger caretakers and charges. They will also be engaged in the interpretations and analyses of the results, and in giving suggestions for appropriate interventions. The involvement of children in the research process will open up opportunities for new knowledge, suggestions and ideas, based on the children's experiences, when planning public health interventions. Children's experiences of caretaking will be mirrored in a gender perspective as there may be differences in responsibilities and future options between girls and boys. This study is therefore an important contribution to the on-going studies within the Reproductive and Child Health project (RCHP), León.

A study exploring the motives and processes related to ***suicidal behaviour*** among young girls was conducted in ***León, Nicaragua***. Individual in-depth interviews were performed with eight girls between 12 and 19 years admitted to hospital for

a suicide attempt. Categories were linked, comparisons made, and finally a theory was built on the mechanisms and situations of how these teenage girls ended up attempting suicide. A model exploring pathways to suicidal behaviour was developed and family dysfunction, absent fathers and lack of integration in the society where some of the structuring conditions that lead to emotional distress. Abuse, deaths in the family, break-up from boyfriends or suicide among friends acted as triggering events. A striking finding was the apparent narrative competence among the girls. Based on our findings, preventive strategies are suggested, indicating that suicide prevention programs for young people must offer support from professionals who are independent from the family and social network of the adolescents. Institutions in the community meeting young people with suicidal behaviour must develop communicative skills to offer a trusting environment which makes use of the resources that young people have.

Evaluative epidemiology

Evaluations are a basis for health planning and management. Epidemiological methods are essential in evaluations of preventive measures like community interventions and individual prevention within the health sector, as well as when assessing established medical technologies and practices.

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. Since there were no Swedish prototypes for this type of intervention, a model adapted to Swedish conditions had to be created. It was developed in the municipality of Norsjö and was later disseminated to the 14 other municipalities in the county, forming the Västerbotten Intervention Program (VIP). Up to the end of 2003 more than 75,000 people at ages 40, 50 and 60 years have participated in VIP, almost everyone also filling in a questionnaire and donating blood samples to be stored in the Northern Sweden Medical Biobank. The programme was designed to combine a population strategy with efforts to meet, examine and give advice individually to people when they were 40, 50 and 60 years of age. Using the ***primary care system*** as a partner, the programme carried out systematic risk factor screening and counselling by its family medicine providers at the same time as the community intervention programme used strategies to raise public awareness.

The Norsjö 10 year evaluation concluded this long term community intervention to be effective in influencing important CVD risk factors. Compared to the reference population, the reduction in cholesterol and in blood pressure was significantly greater in the intervention area. The decline occurred earlier in the intervention area despite representing a rural population late in adopting secular trends.

During the last 15 years, the Norsjö model has been shaping primary health care practice in Västerbotten County. Approximately 60% of the annually invited 40 to 60 year old have participated. During 2002, the participation rate was almost 70%, while for 2003 about 62% participated. Studies have confirmed that there was no

social selection bias when comparing participants and non-participants. During the last decade, The VIP data base has been actively used for epidemiological research, development of new preventive methods in primary care, health economic evaluations, as well as for county council health planning purposes. With regard to primary care oriented epidemiological research, the focus has primarily been on the changing risk burden profile in different social groups and on the possibilities to integrate prevention in the everyday practice.

Primary care involvement has been a vital determinant for the individual oriented part of VIP. To a great extent, the epidemiological VIP evaluation research has been focusing on "how to separate the wheat from the chaff"; i.e. to better understand which individuals - of all those who present with slightly elevated overall risk factor burdens, or with specific single risk factors at the VIP screening - the intervention should focus on. Five parallel research projects are addressing these issues:

- One is focusing on ***early predictors for Type 2 diabetes***, using VIP data and primary care records to identify individuals who did not have diabetes at the VIP screening, but developed the disease and had it subsequently diagnosed [143].
- Another is trying to bring us more knowledge about why middle-aged women seem to swim against the stream and do ***quit smoking*** to the same extent that both younger women as well as younger and middle-aged men do. The expectation of this research is to specifically add knowledge that can support general practitioners in their ambition to reduce risk for AMI and chronic obstructive pulmonary diseases.
- A third project tries to assess who, among ***hypercholesterolaemic individuals*** (s-cholesterol > 8.0 mmol/l) without CVD, really need pharmachological treatment. By developing a new routine for tracking familial hypercholesterolemia and applying this routine to VIP procedure, it might be possible to identify persons and families at high risk for early onset of myocardial infarction.
- A forth project is aiming at ***developing a risk equation***, predicting the 5 and 10 year risk for an individual to develop CVD (stroke or AMI), when taking both traditional and social factors into account [79]. Health counselling is often quite challenging, and its outcome depends on the interaction between the staff and the individuals. It is well known that older risk scores do not fit particularly well. With this research program it will be possible to develop more accurate estimations within one part (2/3) of the VIP database, and to evaluate the new risk equation on the rest (1/3). For the present, a core predictive model on myocardial infarction and another model on stroke is about to be developed, ending up with one (validated) risk equation for men and one for women for both AMI and stroke

Reducing inequalities in health is a programme, financed by the Swedish council for working life and social research (FAS) has served as an umbrella for a number of projects focussing the problems of inequalities in health. In a multidisciplinary setting, also including the divisions of family medicine and internal medicine as well as the departments of sociology, pediatrics, social and economic geography and social welfare, a number of studies have addressed the problems of unfair distribution of health and prerequisites of health. A special emphasis has been

given to circumstances that could serve as guidance for reducing this maldistribution.

Current projects within this programme are:

- School children in need of special support
- Work and class as explanations for inequalities in health
- Early retirement pensions among construction workers
- Inequalities in health after secondary prevention of coronary heart disease
- How could the health promoting town be built?
- Gender explanations for the origin of social inequalities in health
- School as an arena for health promotion
- Geographical aspects of health inequalities

During the mid to late 1990s we have developed a collaboration with Bassett Research Institute, Cooperstown, New York and the Department of Preventive and Community Medicine, University of Rochester, New York, US. The collaboration focuses on two small scale community interventions for the prevention of CVD. The main purpose of this ***"Northern Lights Working Group"*** collaboration is to explore the possibility of learning more by comparing program outcomes between different countries.

The present collaboration re-establishes a public health collaboration between United States and Swedish scientists. Since 2001 the collaboration has continued in a between-country comparison regarding self reported health and its relation to risk factor burden. In 2002 this research collaboration was extended to one more field where the 10 year obesity development in a US and a Northern Sweden panel will be compared as part of a PhD program for one of our US collaborators. During 2003 this research program has focused on comparing trends for obesity development in the two countries. The US data comes from Otsego County in rural northern New York State, where a health census was conducted of the entire adult (>18 years of age) population in 1989 and repeated in 1999. The Swedish data comes from the 1990 Northern Sweden MONICA panel, and its 1999 follow up.

The distribution of risk factor load and self-rated health in 1986 and 1996 and the corresponding movements between the groups among the panel participants (n=174)

Emanating from the evaluation of the Norsjö programme, a doctoral project was initiated to address *the role of self-rated health in public health evaluation*. One of the studies focuses on changes in risk factor load and self-rated health during the ten

year intervention period, 1986-1996, with the MONICA area as the reference. The study supports previous results of an overall risk factor reduction for this period and shows an accompanying positive development of self-rated health. Preliminary analysis from the reference area gives additional support for an intervention effect. Qualitative research interviews supplement the analysis and enable a discussion about the influence of health related norm systems on self-rated health and of how attitudes and feelings towards the health programme can be linked to the outcome. The results indicate that the unintended consequences have not taken precedence over the intended risk factor reduction but that the influence of self-rated health differs for men and women and for educational groups [131].

The incidence registration of stroke, within MONICA and VIP, has formed the basis for a case-referent analysis of perceived health as an effect modifier in predicting disease outcome. In this study, self-rated ill-health independently increased the risk of stroke, specifically for men, and the interaction effect between self-rated health and biomedical risk factor load was greater for men than for women. The influence of self-rated ill-health on the risk for stroke was greater for the better educated with high risk load than for the less educated. These results underscore the importance of including a gender and a social perspective in discussing the role of self-rated health as a predictor for disease outcome [26].

The collaboration with the Basset Research Institute has resulted in a comparative study of determinants for self-rated health between participants in the Västerbotten Intervention Programme and a "sister programme" in the U.S, the Otsego Healthy Heart Programme. The results suggest that cardiovascular risk factor burden is a much stronger predictor of self-rated poor health in adults in the U.S. than in Sweden, especially for the lower educated [130].

The studies about self-rated/perceived health are part of a PhD thesis that will be presented in April 2004.

We are also 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 performed during 1999 comprising more than 5,000 individuals. This gives us both a series of four repeated random cross-sectional studies and three panels (1986/99, 1990/99 and 1994/99) with possibilities to differentiate between cohorts and to generate development of cardiovascular risk indicators. A fifth cross-sectional survey, performed during 2004, will further extend the time period for which the trends can be studied.

The follow-up of individuals participating in the previous MONICA cross-sectional surveys will allow for analysing the role of perceived health in predicting future risk factor load and the reverse, and to study the interaction with socio-economic factors.

A more health-oriented health care

Assessing public health policy

For the first time ever, the Swedish parliament in April 2003 adopted a Bill on a comprehensive ***national public health policy***. The new policy aims to strengthen health promotion and disease prevention initiatives, contribute to a reduction of health inequalities between groups and make health consequences an important

aspect to consider in all decision making at every level of society. Contrary to many other national health policies, the Swedish health goals mainly address determinants of health. They are first of all operating at the level of society and culture and attempt to put health issues on the political as well as the social agenda. One of the new 11 goals in the Bill, Goal 6 "***Health and medical care that more actively promotes good health***", states that the medical care service plays a key role in public healthy work due to their specific competence, broad knowledge, authority and extensive contact with the population. The Bill also underlines that the services need to be much more health-oriented, which implies a shift in perspective towards a holistic view of people's problems and a transition to more health-promoting and preventive policy.

Our department was actively involved in the process of developing a national public health policy, and is now actively supporting the implementation process. In collaboration with the National Public Health Institute, we have launched a research program focusing on different aspects of how the health care system can be more health oriented.

During 2003, the collaboration between our department and the department of Community Medicine at the County Council was further developed. In order to support research related to the new national public health policy in general, and specifically Goal 6 "Health and medical care that more actively promotes good health", 4 new postgraduate research scholarship were appointed (one if the scholarships was partly supported by the National Public Health Institute). These postgraduate studies are planned to focus on four different topics. The first is studying health economy in relation to health service home visits among elderly, the second will scrutinize if strengthening of social support can be useful for health promotion in the population, the third will focus on children and their body image and the fourth will mainly analyse obstacles and possibilities among health professionals in the process of developing a health and medical care that more actively promotes good health.

Cost-effectiveness of prevention

In an intervention project of ***caries preventive measures***, conventionally used preventive measures for dental health among adolescents are implemented and evaluated. The aim was to compare four different preventive measures in a high risk group of adolescents selected among 3,700 12-year old children, and evaluate the health effect and cost effectiveness during six years. The effect of social factors on the outcome of the measures is also studied. The project is a multi-centre study involving teams of dental professionals in 26 dental clinics from all over Sweden. The project, which started in 1994, completed the baseline survey during 1995. Repeated examinations, questionnaires and interviews have followed during 1996-2000.

A licentiate thesis during 2003 [122] showed that after four and five years of evaluation, the preventive measure providing fluoride varnish intensively for a week, two times a year is the most effective, reducing the risk among the high risk group, however the risk reduction is minor compared to the risk among the low risk-group. When the cost-effectiveness of this measure was estimated it amounted to around SEK 1,300 when only the clinic costs were estimated, while it was SEK 2,000 when the patient costs were included [77].

In view of the decreasing incidence of caries and the increasing financial pressure on the dental care institutions, a number of health care models are being tried out, often without proper evaluations. It is sometimes claimed that what is called a high-risk strategy is preferable, or that such a strategy is inherent in these models. To justify care models using screening and assessment of health risks, there must be carefully evaluated methods to prevent caries in children who are believed to belong to the high-risk group. Today it is uncertain whether additional effects are obtained by using current prevention methods in a selected high-risk group. Furthermore, there is concern about what may be the effect if preventive measures should only apply to high-risk groups, in contrast to prevention directed to the whole population; it is feared that the general dental health situation will deteriorate, resulting in a social imbalance of dental health.

Within frames of the project, the social predictors for oral health behaviour in adolescents are studied in order to understand the underlying differences in behaviour and impact of prevention in different social groups. By means of estimating lifestyle as well as social roles in different social strata and their development during adolescence, the impact of social determinants on health behaviour and oral health has been analysed [57, 58].

Screening for breast cancer

Few secondary interventions have been as carefully evaluated, and perhaps therefore as questioned as mammography screening. To evaluate its benefit on breast cancer mortality, an overview of the four randomised trials that have been performed in Sweden was administered by our department. 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 2000 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 the breast cancer mortality in the invited group.

Since 1986 all county councils in Sweden invite women aged 50-69 to mammography screening every second year and about half of the county councils also invite women 40-49 and 70-74 years, the so-called Swedish service-screening programme. The question is whether it will be possible, when screening is made a routine activity, to reproduce the results from the randomised trials. The problem of how to evaluate nation-wide screening programmes is new and there is a need for development of methods e.g. to minimise the lead time bias and to select a proper control population.

In collaboration with the Oncologic Center in Umeå and Stockholm the effects of the service-screening programme in the age group 40-49 years has been evaluated by comparing the breast cancer mortality in counties inviting women 40-74 years with counties inviting women 50-69 years to screening. With a mean screening interval of 20 months and a mean follow-up of 7 years, the reduction in the refined breast cancer mortality in counties inviting women 40-49 years as compared with counties not inviting women 40-49 years was estimated at 9%. This may be an underestimated effect due to opportunistic screening in the control cohorts, the inclusion of cases in the study cohorts diagnosed before invitation and the lead time bias in the study cohorts. 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-). With a mean individual follow-up time of 8.4 years the non-significant reduction in the breast cancer mortality was estimated at 16% [54]. The efficacy of also inviting women 70-74 years to screening was evaluated using the same design as for the age group 40-49. With a mean follow-up of 10 years the reduction in the excess mortality due to breast cancer disease was estimated at 24% [55].

Client-held health records

Patient-held records have a tradition since at least the 1940s. Such records could focus either on disease and cure, like the traditional medical record, or health and prevention, like the antenatal record. Patient-held health records have been used worldwide in antenatal and child care. The aims for such records have been manifold, but the most interesting are 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 project to create a patient-held health record, targeting the adult population, was initiated in 1997. A pilot study of the record ("My book about health") has been published as a masters thesis (1999:18). Since 2000, the records are used at most primary health centres in the county. The experiences of patients and health personnel are studied. In 2001, the record was also distributed at different working sites, and directly to a random sample of the population.

A Swedish version of the record ("Min bok om hälsa") can be found at http:/www.ltdalarna.se/folkhalsa. A health record for adolescents, 12 to 16 years of age, has also been developed. It consists of a file with different booklets, named "VIP – Very Important Person". A pilot study has been running since the autumn 2002, and a controlled study will start during 2003.

Health, stress and professional preferences among health care employees - a gender perspective

The restructuring of health care during the 1990s has resulted in increasing stress and ill health among employees. Long-term sick leave is a growing problem, especially among women working in the public sector. Simultaneously, health science education for nurses, physiotherapists (PTs) and occupational therapists (OTs) has changed and become part of the universities. An ongoing process of academisation in these professions is at hand. These predominantly female professions have previously been subordinated by the male dominated medical profession. The medical profession undergoes several processes, among which deprofessionalisation and feminisation are the most prominent. The content of work, autonomy and power relations in the health care hierarchy might therefore change. The educational programmes in health science education experience a decrease in popularity with fewer applicants to the programmes [113].

This research project focuses on working conditions in health care organisations. The aim is to increase the understanding of dissatisfaction and the flight from

health care work among health professionals. Recently graduated nurses, occupational therapists, physicians and physiotherapists in Sweden are investigated. Questions about work satisfaction, stress and professional preferences are covered in a survey. The job strain questionnaire and the effort-reward-imbalance questionnaire are included in the survey. In order to understand the reasoning about working conditions and the professional preferences and career paths among these professionals, qualitative research interviews will be conducted. Asking the employees themselves about their strategies, preferences and ideas regarding working conditions will increase the understanding of this problem, something that can hopefully be used to prevent long-term sick leave and the flight from health care work. Analysis of the answers from nurses, OTs and PTs reveal dissatisfaction with work organisation (72 %) and with health care management (63 %), especially in the public sector of health care, in the youngest age groups and among women having a heavy workload at home. The results indicate the importance of including paid and unpaid work in analyses of working conditions. This also implies that a gender perspective is important.

Rehabilitation – outcome for people with low-back complaints

Outcome for people with e.g. low-back complaints, have shown that people with less specific illness in the sense of probable lack of measurable deficiencies seem to be over-represented among sickness and disability pensioners [133]. Can this be interpreted as a result relative to what strategies are in use within the health care system? The most common strategies derive from a biomedical perspective whereby the starting point is measurable deficiencies from what is seen as natural or normal functioning. Most people who seek medical advice lack these deficiencies and are theoretically not the target for medical strategies according to this perspective. Experiencing illness is a malfunctioning that prevents people from doing things, e.g. working. If this malfunctioning is socially determinate and the outcome of rehabilitation gives rise for a social selection, the strategies have to be evaluated in terms of their theoretical background. Are strategies deriving from the biomedical perspective sufficient enough for medical problems of today? Can this perspective (theory) of health be challenged by other theories of health? Two empirical data sets were used to study this theoretical issue. One data set contained all people (20-64 years of age) who had reported a long-standing illness (low-back complaints) in a nation-wide survey and the other data set contained people that during one year had been on sick leave due to low-back complaints or other kinds of complaints. Outcome was measured as length of sick leave, number of spells and number of sickness and disability pensions. To greater extent people with non-specific or frequent complaints were sickness and disability pensioners. They also reported reduced physical ability, high mental job strain and smoked daily. The greater extent of sickness and disability pensions among those with non-specific complaints may be interpreted as a result of measures deriving from a perspective that allocates more specific complaints. This outcome could be altered by using other strategies suitable for people with disabilities independently of the specificity of the complaint. A humanistic social perspective of health advocates strategies which see man as an acting subject in a social context and define health as the ability to fulfil wanted actions. The problem for people with a malfunctioning is that their ability is hampered. In this sense the humanistic social perspective could be more suitable than the biomedical perspective. Strategies

used within the health care system are of vital importance for the outcome. Patients' beliefs about what kind of health care measures they should receive influence their understanding and compliance to proposed measures. Planned future research will deal with offered measures – what kind of measures and to whom? The target group are patients on sick leave > 29 days due to low-back complaints. The result of that investigation will be the basis for planning and conducting an intervention study, which includes both patients and care givers within and outside the health care system. The outcome will be measured as reduction of days compensated due to illness.

Social insurance research

Within the field of ***social insurance research*** a study is being performed regarding the high incapacity rate in Västerbotten, mainly the number of days with sickness allowance and disability pension. The project is conducted together with the Social Insurance Office in ***Västerbotten***. The aim of the study is to find ways to reduce the high incapacity rate. The study describes and analyses the situation for persons on sick leave, the various actors' picture of their roles for those on long-term sick leave, and the different parties' pictures of the other actors and of co-operation. Interviews with insurance office employees, doctors, employers and persons on long-term sick leave were supplemented by questionnaires to persons on long term sick leave, to the board of social insurance and persons reporting on cases concerning early retirement. The results of the interviews with persons on sick leave showed that they had difficulties in asking for help and support. They felt such loyalty to their employers that they did not ask for adjustments of working places when needed. The results of the questionnaire to persons on long-term sick leave showed that women took a greater responsibility for their own rehabilitation, while the employers showed an earlier interest in sick male employees than in sick female employees. The employers were also keener to adjust the working places for men than for women.

The interviews with the employers showed great differences in attitudes and ways of treating employees, which also led to different models for dealing with work environment, sickness absence and rehabilitation. Lack of collaboration between the actors and need of support in the rehabilitation process among the sick-listed were some of the major findings. More aggressive action from the social insurance officials is also needed. Among medical doctors there was a lack of knowledge of the social insurance legislation as well as the requirements in the labour market. As a whole the members of the board of social insurance seemed to be skilled in their knowledge of how to use the social insurance legislation.

A study in which the four northern counties in Sweden, Norrbotten, Västerbotten, Jämtland and Västernorrland, are being compared with a county in the south of Sweden, Kronoberg, is ongoing. The study is focusing on social insurance, how it is used by persons living in these areas and how the doctors, social insurance officials and the board of social insurance are operating with these matters. The studies show that the difference within each county is greater than between the counties in northern Sweden and Kronoberg. The total amount of money used for social assistance differed a lot between the communes but where generally higher in the north than in Kronoberg. Deeper research in that field is now ungoing. Generally there where no systematic differences between the different counties in

using welfare benefits and in the judgements of officials of the right to obtain social benefits.

Health economic evaluation research

Health economic research in the unit follows two main lines; the normative base for economic evaluation and the integration of epidemiological and economic data as a basis for decision-making.

During 2001, a PhD project along the first line was launched – evaluation of ***alcoholic prevention*** based on economic and gender theory [75, 141]. The point of departure for one sub-study is the well-known observation that women live longer but seem to suffer more illness than men. The policy conclusions suggested as a response to this observation are apparently very different, and the reason is the normative component applied in the decision-making process. The purpose of this study is to comparatively apply different theories as welfarism, extra-welfarism, egalitarianism and normative gender theory in the situation mentioned above, and to show the policy implications following from each of these.

In collaboration with the Centre of Epidemiology at the National Board of Health and Welfare a model has been developed for the purpose of ***allocating resources*** to prevention and treatment of cardiovascular diseases. The model basically combines epidemiological data for a certain geographical area with estimates of cost-effectiveness for series of possible interventions. Assuming that the goal for policy is health maximisation, a unique set of interventions best satisfying that goal can be identified. However, the normative assumption of health maximisation has been questioned, and we thus plan to base the model on alternative normative assumptions, for instance rank interventions according to disease severity and according to common medical practice. These comparisons will reveal the relationship between different normative assumptions.

During the last years, we have also been involved in health economic studies in low-income countries in Asia and Africa.

In ***Bangladesh*** some 45% of new-borns have a low birth weight (<2500g), the highest prevalence reported globally. Most of the LBW's in Bangladesh are considered to be a consequence of foetal growth retardation. Bangladeshi mothers are in most cases malnourished and it is assumed that both the mother and the child will benefit from dietary supplementation. However, there is limited knowledge on the efficacy of such interventions in improving birth weight and maternal weight, as well as on the effectiveness of such programmes in full-scale implementation. There are ongoing national programmes of food and micronutrient supplementation in Bangladesh, but the cost is probably high and nothing is known about the cost-effectiveness. Thus, ICDDR, B in Dhaka has started a large trial with the purpose of studying efficacy and effectiveness in ***food supplementation***, and 3000 women will be invited to the study. We will investigate the ***cost-effectiveness and equity*** in the trial. In particular, the incremental cost-effectiveness in a sequence of different interventions will be studied. In 2002 a study aimed at measuring Quality Adjusted Life Years was started and the fieldwork was completed. The study will elicit pregnant women's perceived severity weights (scores) for chronic energy deficiency (CED), anaemia during pregnancy, respiratory tract infection, urinary infection and postpartum

infection with an aim to capture the changes in QALYs gained by the intervention of food and iron-folate/multiple micronutrient supplementation. This will be done by using EuroQol 5-D questionnaire and Visual Analogue Scale in combination with focus groups and interviews.

During the Bavi workshops, the need for ***assessing the health care system*** in Vietnam has been raised [64]. The main idea is to develop a general multi-criteria approach, for instance, that people should pay taxes or insurance fees according to ability, that access to health care should solely be based on need, and that resources should be used effectively. The factual situation can in the next step be compared with these criteria, giving the possibility to assess or evaluate the different components of the health care system as well as the whole system. Most of the fieldwork in this research can be done in Bavi, using information collected in the field laboratory. The research programme also aims at co-ordinating master and doctoral studies, hopefully increasing the usefulness of the research results as a base for planning and decision-making in Vietnam.

During 2002 a PhD-project within this research programme was launched. Focus in this PhD-plan is the vicious circle of ***poverty and ill health***. The case is injuries and their causes and consequences but it could have been any lasting and severe disease. Poverty and health have very close links to economic development and to how health care is financed. Out-of-pocket payment seems to increase the risk of poverty while prepaid health care reduces it. However, in systems lacking prepaid health care more informal insurance arrangements can have developed. One possible example is migration from rural to urban areas, increasing the economic standard for the migrant and his family left in the village. Thus, migration perhaps strengthens a family's capacity to avoid the medical poverty trap. People's willingness to buy formal insurance must be seen against the background of potential informal insurance systems [103].

The system research mentioned above will also be used in Butajira, ***Ethiopia***. In 2000, a ***child health care intervention*** was introduced as part of the Indoor Air Pollution research project. The target population is children under the age of five in the nine rural Peasants' Associations in the BRHP study base. During this intervention, children can visit the village Health Post free of charge. The funding for the intervention will be terminated in mid-2002, when the Indoor Air Pollution project is completed. The health effects of the intervention will be evaluated within the Indoor Air Pollution Project. However, besides the health effects, the intervention also has important implications on questions concerning how to finance health care in a community such as Butajira. The fact that the population has been exposed to the intervention will have influenced the awareness of the need of a functioning local primary health care. Access to the longitudinal background data will improve the possibilities to study the determinants of both preferences as to financing systems and of willingness to pay for services. In principle there are two main alternatives for financing health care; having the patients pay the fee for the care at the point of delivery and/or financing the care through prepayments by the population. In many situations the practical solutions include elements of both these alternatives. At the Village Health Posts in Butajira, health care for children five years and older – and for the grown-ups – is financed through a revolving funds scheme. If no other alternative will be planned, this will also be how health care for children up to five will be financed when the funding for the present project is ended. Among the alternatives to this

method of financing we have identified two methods that differ in important principles, a community insurance system and a risk rated insurance system. Around 1500 women and 1500 men will be interviewed in Butajira, and one hypothesis is that women prefer a community insurance system while men prefer revolving funds. Future decisions on how to finance health care in Butajira will benefit from knowing more about people's preferences.

Urban Design

The research program "Urban Design" is carried out within a program area at the Centre for Regional Science (CERUM) and is a collaboration between scientists from a number of departments.

The focus of "Urban Design" is the middle sized town and its potential to develop. This implies that research projects with different topics have been created within the different departments. Research projects in our field focus on health, social structures and living conditions in three sub projects:

*"**Urban Health***" illustrates how living conditions affect people's health in different settings. By building a database with information from Västerbotten Intervention Project (VIP) and several other registers, the purpose is to build "virtual municipalities". Every "municipality" is created based on its own characteristics. We want to focus on how the social environment in the local area affects health related measurements.

The concept "***Social capital***" is generally believed to influence public health but there is no consensus of how the concept is defined, measured and valued. The research group has as a first step presented a summary of knowledge about the concept [115]. Most studies about social capital and health have focused on the direct effects of social capital on health. In our continuing research we want to focus instead on the less explored area of social capital's indirect effects on health, by investigating how social capital can be used to improve community based public health interventions. In our progressing research within this area we are also planning to highlight power and gender aspects of social capital. Both qualitative and quantitative measurements will be used.

In the part of the project named "***Social Community***", the development of health for elderly is in focus. If the population is ageing, the issue of preventive actions becomes even more important. During two years pensioners from Nordmaling have received professional home visits. The on-going evaluation indicates that the visits have had positive effects on health. The self-rated health has improved, the tendency to use influenza vaccine has increased and the number of emergency cases in primary health care has decreased. A comprehensive economical analysis also found that the costs of the visits were equal to the decreased need for health care and home help [126].

Comprehensive data collection was started in 2003. The purpose is to characterize the middle-sized town and its power of attraction, viewed with the eyes of a modern dimension of health. The project "Urban Design" within the program area at the CERUM will finish during 2004, but the three sub projects will carry on through individual PhD projects.

Smoking prevention from a regional, national and international perspective

Tobacco-use greatly increases the risk of premature death. Each year tobacco products kill close to 5 million people around the world, and the numbers are increasing. In 2003, WHO adopted the Framework Convention on Tobacco Control to promote global action against tobacco, the first framework convention in the field of public health. The main strategies in Sweden to reduce smoking on a societal level during the last decades have been through information, taxation and legislation. At group and individual level the most important strategies have been smoking cessation targeting adults and supporting young people in saying no to tobacco. International studies have shown that it is possible to prevent or postpone the onset of tobacco use. From a Swedish perspective, tobacco prevention in young people is an under researched field. A research project at the department is addressing the issue. Below there are different examples of our work in the field of tobacco prevention.

In order to prevent or postpone adolescent use of tobacco in the county of Västerbotten, the planning and development of a long-term program started in 1993 by the County Council. The developed program targeting young people, called *Tobacco free duo*, was a multi component program mainly focusing on building policies, increasing knowledge on tobacco related issues and using adult support and methods of social influence. The programme started on a small scale in the first year with a pilot using schools as the arena and was gradually disseminated in the county. Since 1997 the programme is regional with a regional organisation and is carried out by the Department of Community Health and the Public Dental Health Service in co-operation with the communities. We evaluate the program using data collected in Västerbotten County on adolescent's use of tobacco. The focus of the research is to evaluate the program's effect on young people's use of tobacco, to get better knowledge on preventive factors of importance, and to look into the health economic effects of the program.

It is of interest to follow the regional and national trends concerning young people's use of tobacco and to better understand factors influencing their attitudes and behaviour. Considering the magnitude of smoking as a public health problem as well as the difficulties in influencing young people's behaviour, tobacco preventive programmes should continuously be developed and studied. In 1987 and 1994 national studies on young people's use of tobacco were carried out by National Board of Health and Welfare and the National Public Health Institute. In addition to studying the tobacco prevalence, the second study also covered young people's attitudes to tobacco and factors influencing the use. In 2003 we were commissioned by the National Public Health Institute to repeat the study. The data has been collected and will be analysed in 2004. The aim of the study is to follow

up and compare the new data with the results from 1994, and also to look into some added issues as young people's attitudes on environmental smoke, snuff, smoking in public places and towards the tobacco industry. The study will shed light on changes over time in tobacco prevalence, knowledge and attitudes but also age and gender differences.

The gender issue was the main focus in a *European research collaboration* 2001-2003 where we worked together with partners from Austria, Belgium-Flanders, Portugal and Scotland-UK. The project was financially supported by the European commission "Europe against Cancer" and co-ordinated by the Flemish Institute for Health Promotion in Belgium. It built on data showing an increase in the smoking prevalence among adolescents, especially among girls and revealing gender differences, and on recommendations calling for research into gender differences, explaining the differential trends in smoking. The project consisted of three parts: the first a literature review; the second an analysis of existing data from the HBSC database (WHO/EURO; Health behaviour in school-aged children) an analysis looking into gender differences; the third part was a qualitative study to investigate the issue and gain insight in the meaning and functions of smoking for boys and girls. The qualitative study gave in-depth insight and revealed gender differences in the different mechanisms and functions of smoking for boys and girls. The project was carried out within the framework project of ENYPAT (European Network on Young People And Tobacco) and the results were disseminated Europe wide through the network.

Presenting the Swedish example on the workshop

In recent decades increasing urbanisation has been seen in ***South Africa***, particularly in the 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 the unborn babies. Over the past three years collaboration has been discussed and planned between us and the Medical Research Council in Cape Town. Studies have been carried out in Western Cape during 2001-2003 to identify the influences on coloured pregnant women causing them to smoke, midwifes who provide care during pregnancy and the perspective of the key informants in the health services regarding the high smoking rate. Together with experiences from models of intervention, for example models used in Sweden, the results from the studies set a base in

planning an intervention . Through a series of exchange visits and joint workshops we have designed a study consisting of a pilot intervention and a plan for evaluation. This is done in close collaboration with people involved in training midwifes and those planning and developing antenatal services nationally in South Africa and in the province of Western Cape.

Umeå researchers met with colleagues at MRC in Cape Town in February 2004 to develop a research proposal evaluating a smoking cessation intervention among coloured pregnant women.

4. TRAINING AT UMEÅ INTERNATIONAL SCHOOL OF PUBLIC HEALTH

Course in Public Health autumn 2004

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 made a springboard for the research. What started as short courses in epidemiological method 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 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.

Magister of Public Health Programme

We have offered an international Master of Public Health programme since 1991. The MPH courses provide the scientific basis for professional work in the field of Public Health and also serve as a channel into and an introduction to research in Public Health. All teaching is grounded in research performed within the department and is method oriented. In group or PC-lab work, adapted datasets from actual research – cleaned of all identification - are routinely used.

In 1994, when the degree system in Swedish higher education was restructured, a master's level degree called *magister* was reintroduced after thirty years of absence. This *Magister* of Public Health Degree corresponds to the internationally recognised MPH degree, which is also the English name of it.

From the beginning, all our courses have had an internationally focussed content, contrasting aspects of Public Health in the countries of Western Europe and North America with those of Africa, Asia, and Latin America. Since 1995, all teaching

is in English, following an increasingly international recruitment of students. The Swedish educational system which does not charge tuition fees attracts foreign students who in their turn contribute from their experience to the international perspective on Public Health in the training.

Sources of Master of Public Health students 1991-2003

In the last few years, the wider spread of access to the Internet has become increasingly obvious in the recruitment, or rather self-recruitment, of international students. Suddenly, whole batches of programme applications turn up from "new" countries, from which we previously received few or no applications. It would be interesting to know if this reflects the rate of introduction of Internet Cafés in places like Yaounde (Cameroon). In more quantifiable terms, the number of applicants with no previous connection to our department, or to those we collaborate with internationally, has steadily increased in a way that cannot be a reflection of increased activities by Swedish embassies abroad (Figure 10). In practical terms, this also demonstrates an increasing demand on our efforts to improve our web-based information.

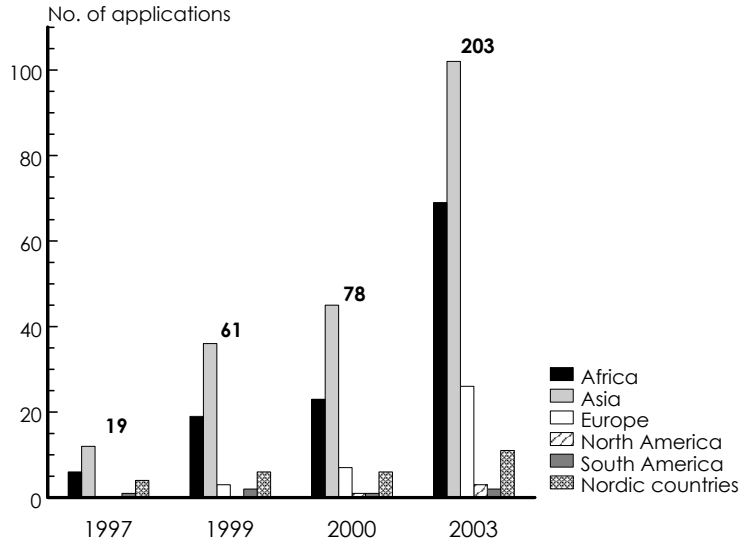


Figure 10. Applications to the Public Health Programme

Besides the need for up-to-date information on our home page, the increasing interest also increases the pressure on our administration to cope with the growing flow of applications and demands for information, as well as to offer assistance to students, once they are accepted and in place in the harsh North. Our administrators play an extremely important role in the development of the Umeå International School of Public Health. The importance of developing administrative and social skills is hugely underrated in comparison to the stress laid on research qualifications and experience of teachers.

To date, 240 students from 45 countries, including Sweden, have joined the programme (see map above). In autumn 2003 twenty-nine new students joined the programme.

While many of the international students have been recruited through research connections, a growing number are "free movers", i.e. students moving independently on an international training market. From 1996 we have received financial support from the Swedish STINT foundation to offer scholarships to students from certain developing countries. As of 2001 the East European Committee is also sponsoring two MPH students from Russia. Beginning with the academic year 2003-04, the regional County Council has given the department two scholarships annually to award to students from the new EU member countries for MPH studies. The first two selected are from Cyprus and Malta, currently preparing to finish their studies in June 2004.

Swedish recruitment has a Northern bias, but students from all over the country who have an interest in international Public Health come to Umeå for their MPH studies. While most of the non-Swedish students come to Umeå to study full time for the MPH degree, the majority of the Swedes do their studies while working part time.

In 2003, 25 students completed the Master degree, 3 Swedes and 22 non-Swedes. Over the years there, has been a fairly consistent sex ratio pattern with a predominance of women students among the Swedes but mainly men among the non-Swedes, but in the last few years the proportion of female students from developing countries has been increasing. Among the 2003/04 MPH group of students, 63% are females.

Teaching is concentrated to full time weeks of lectures, seminars and group or PC-lab work. Between course weeks, which are approximately one week per month, students study on their own, but with access to faculty, personally or by telephone or e-mail. This arrangement was developed because of Umeå's position in the sparsely populated North to allow nation-wide recruitment of students, many of whom would combine their studies with working at least part time.

The requirement for the Master of Public Health degree is 80 academic study points of optional minor subjects and 80 points from the major subject – Public Health (80 study-points corresponds to two full time years of study, 120 ECTS). Previous studies can be counted towards the requirements for the degree. Courses from universities outside Sweden can be considered equivalent to Swedish major or minor subject courses, but this is conditional on approval by national Swedish academic authorities. Normally, previous training considered as academic level training by Swedish standards will be included as minor subject courses. For students trained for health professions or in other areas with obvious Public Health content, relevant courses from previous studies can be included as major

subject courses for the degree, which can make it possible to complete the MPH part of the programme in less than two years.

The Public Health Major programme consists of course modules that can be taken either full time or part-time. The programme includes two compulsory courses, *Public Health* and *Epidemiology,* each of 10 points, ***MPH thesis*** of 20 points and ***elective courses*** (see below) to make up the required 80 points.

Elective courses 2003/04	
Qualitative methods	10 p
Biostatistics	10 p
Medical sociology for public health	5 p
Medical sociology: inequity in health	5 p
Public Health Informatics (*new*)	10 p
Evaluation in Public health	10 p
Environmental medicine	10 p

A variety of courses offered by other departments can also be included. There is a mutual agreement between the university departments in Public Health within Sweden to accept each others' courses for the MPH degree. This makes it possible for students to select from a wider range of specialised courses and opens for greater mobility.

Topics of completed MPH theses are shown in the publication list provided on page 83.

Summer course: Epidemiology and Field Research Methods

This course, which so far has been given as a regular research methods course fifteen times, was actually the first regular course offered by us. It began as an ad hoc course given within research collaborations with universities in developing countries. As the number of such collaborations grew, along with the number of department faculty, it developed into a regular arrangement offered in Umeå in early June every year.

The format and content of the course has been constantly changing, with an increasing focus on the interfacing of quantitative and qualitative methods in epidemiology. Even more than with the rest of our teaching, the inclination is towards the use of actual research materials and a high proportion of hands-on training.

Recruitment to the course is mainly based on international collaboration, with more than half of the participants being researchers from developing countries.

Swedish participants are either researchers with an interest in health research in developing countries or Umeå University students with a relevant training background.

Twenty-four students participated in the Summer course 2003. Four of the participants came from Sweden. Other countries represented were Ethiopia, Ghana, Nicaragua, Russia, South Africa, Tanzania, Uganda, USA and Vietnam.

The summer course is partly sponsored by Sida/SAREC through scholarships to students from SAREC supported bilateral collaborations

Typically, the summer course fosters academic as well as social integration

Research training

We offer degrees in three PhD subjects "***Epidemiology***", "***Public Health***" and "***Family Medicine and Epidemiology***".

Presently (2003) 31 research students are registered at the department, 11 men and 16 women (Table 5). Twelve PhD students have been recruited within international research collaborations, while 15 are Swedish research students. During 1987-2003 31 PhD theses (14 by women) and 7 licentiate theses (6 by women) were defended at the department. Twelve of the PhD theses, and five licentiate theses, were defended by international research students.

Our unit is responsible for a major part of the basic research training course of the Medical Faculty, and from 1997 we are also offering an advanced course in applied biostatistics with computer applications. The yearly summer course and the courses included in the Masters' programme in public health are also used by several research students as part of their research training programme.

Several of the research students of the department are affiliated also 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.

Some of the international and non-Umeå
based research students visiting during 2003

The department is involved in research and research training in collaboration with a number of universities, departments or NGOs in the United States, Latin America, Africa and Asia. We have also close links with several department sin Umeå. We thus share tutorial responsibilities and collaborate with relevant nearby clinics as well as social science departments and other national institutions. In addition to research training courses and individual tutorials, the seminars of the department constitute an important part of the programme (Table 4).

Single courses

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

Increasing UISPH involvement in teaching outside Sweden

Besides the regular courses offered in Umeå, such as our summer course and the MPH programme, we have intermittently been involved in teaching outside our own university. Some of these activities are organised within ***teacher exchange***

programmes while others are ad hoc courses, organised within research collaborations. 2002 saw an increase in the involvement in training abroad and in requests for such involvement.

Course in epidemiology at the University of the North, South Africa

In 2003, two extramural courses on epidemiologic method were given. The first was in January as part of a collaboration with two South African universities, Witwatersrand in Johannesburg and the University in the North (UNIN) in Polokwane. Venue for the course was the University of the North, which is one of the formerly black universities. The course was for two weeks, combining quantitative and qualitative research methods in epidemiology. 19 participants followed the course, one of whom later joined our department as a master's student in Public Health. Facilitators of the course were Peter Byass, Maria Emmelin and Anders Emmelin. Counterpart and facilitator in UNIN was dr. Marianne Alberts, who was also instrumental in arranging the course.

In April we offered a one week course in Addis Ababa in collaboration with the Department of Communicy Health, Addis Ababa University and with the training division of the All Africa Leprosy Rehabilitation and Training Centre and the Armauer Hansen Research Institute, both of Addis Ababa. Facilitators were Yemane Berhane, Peter Byass, Anders Emmelin and Stig Wall.

In the discussions about teaching collaboration, there has lately been a shift of focus from the subject matter and the international experience to teaching methods. There is now a growing interest in sending observers to participate in courses as well as in building collaborative teams for training methods for teaching specific subjects.

Master seminars June 2003

Group work

Master seminars, June 2003

Soccer match between students and teachers

Class party – Qualitative methods course

…and Public Health course

Table 4. Seminars at the department 2003.

January	**Maria Nilsson**.Gender differences in smoking in young people
	Urban Janlert. The population as a patient – a community health perspective
	Malin Eriksson. Socialt kapital
February	**Anne Nafziger**. BMI development in US and Northern Sweden 1990-1999. When will Sweden catch up?
	Lena Mustonen, Maria Emmelin & Stig Wall. Peer-review experiences from the editorial office of SJPH
	Hans Stenlund. What is ”adjusting for….”?
March	**Ingrid Mogren**. Bäckensmärta under graviditet – första kvantitativa delstudien
	Hoang Minh Hang. Epidemiology of accidents and injuries in rural Vietnam
	Gunilla Ringbäck-Weitoft (Dissertation 030321). Ensamma mödrars hälsa i Sverige
	Anna Winkvist. Postpartum weight retention in Indonesian mothers
	Klas-Göran Sahlén. Effekter av förebyggande hembesök hos äldre.
April	**Birgit Enberg & Ann Öhman**. Health care as a professional arena – a gender perspective. Report from a national survey
	Stephen Goldin. Child coping with war and exile
	Karina Nygren. Internationell audit – en metod för att granska folkhälsoarbete
	Ninuk Sri Hartini. Dietary intake and nutritional status during economic crisis: the case of pregnant women in Central Java, Indonesia
May	**Lars Dahlgren**. AIDS in Tanzania
	Hans Rosling. The World Health Chart
June	**Joakim Isaksson**. Funktionshindrade barn och ungdomar I behov av särskilt stöd I skolan I Umeå kommun
	Fikru Tesfaye. Surviellance of risk factors for non-communicable diseases in Butajira district, Ehtopia
September	**Lennarth Nyström**. The potentials of registers in diabetes epidemiology
October	**Maria Sjölander**. Community based studies of drug use in Vietnam
	Lena Lundström. Hälsoteoriers betydelse i vår vardag - hur tänker vi, hur definierar vi och hur tolkar vi?
November	**Torbjörn Lind**. Iron and zinc in infancy
	Hans Stenlund. Sampling: estimation, weighting and software
	Ann Öhman och Hans Stenlund. Jämställdhet, löner och meritering
	Nils Oscarsson (lic seminar). Costs and cost-effectiveness of different caries-preventive measures in youth dental care in Sweden
December	**Jeremiah Chikovore** (pre dissertation). Gender power dynamics in sexual and reproductive health: A qualitative study in Chiredzi District, Zimbabwe
	Anna-Karin Hurtig and Miguel San Sebastian. The health impact of oil development in the Amazon basin of Ecuador
	Huong Dao Lan. Mortality in transitional Vietnam.
	Fyson Kasenga. Community based intervention on home are for HIV/AIDS patients in a rural setting, Malawi.

Table 5. Doctoral students registered at the division 2003.

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
Jeremiah Chikovore	Sociologist	Gender roles and women's reproductive health: An explorative study on male role in reproductive health with special emphasis on abortion.
Kjerstin Dahlblom	BA	Children caring for siblings. Children's perspectives of caretaking in León, Nicaragua – a qualitative and quantitative approach
Kerstin Edin	Midwife	Våld i samband med graviditet och barnafödande – kvinnan, barnet och mannen
Berit Edvardssson	Family physician	Varför kan en del människor med sjukahussymptom arbeta och andra inte
Anders Emmelin	BSc, health inspector	Air pollution epidemiology
Maria Emmelin	BA, medical sociologist	Ethical and social considerations in public health work
Mesganaw Fantahun Afework	MD, Community Health	Mortality patterns by age and gender in rural Ethiopia
Stephen Goldin	MD, child psychiatrist	Stress, coping and health: life stories of refugee children
Yegomawork Gossaye	Nurse	Women's health, domestic violence and its association to adverse mental health and child survival in Ethopia
Mats Granvik	Health planner	Befolkningen och hälso- och sjukvården – om psykosociala problem, prevention, somatisering och medikalisering
Lars Hagberg	Health economist	Hälsoekonomisk utvärdering av samhällets insatser för att främja fysisk aktivitet i befolkningen
Kerstin Hultén	Nutritionist	Breast cancer and dietary habits – an epidemiologic study of protective factors
Shabbir Ismail Abbas	MD, Community Health	Epidemiology of HIV/AIDS and high risk sexual behaviours among populations of Central Ethiopia
Lars Jerdén	MD, general practitioner	Empowerment och prevention – utvärdering av nya verktyg
Torbjörn Lind	MD, paediatrician	Micronutrients during infancy and childhood: Dietary determinants and functional outcomes
Anna Månsson	Economist	Hälsoekonomisk utvärdering i ett genusperspektiv
Anne Nafziger	Cardiologist	Obesity in predominantly rural areas: comparisons of northern Sweden and upstate New York, USA
Nawi Ng	MD	Non-communicable disease risk factors and cause specific mortality in Purworejo district, Indonesia
Maria Nilsson	Social worker	Hälsofrämjande arbete bland ungdomar – att förebygga tobaksbruk
Margareta Norberg	MD, general practitioner	Tidiga riskmarkörer för utveckling av typ 2 diabetes TRIM-studien
Nils Oscarsson	OD, dentist	Att välja prevention i ungdomstandvården. Hälsoekonomiska analysmetoder som beslutsunderlag
Saadhna Panday	Bachelor of pharmacy	Behaviours that place adolescents at risk – A case of tobacco using behaviour in South Africa
Gunilla Ringbäck-Weitoft	(Dissertation 030321)	Lone parenting, socioeconomic conditions and severe ill-health. Longitudinal register-based studies
Rubina Shaheen	MD	Combined interventions against maternal depletion and low birth weight in Bangladesh: Issues of cost effectiveness, compliance and equity
Ninuk Sri Hartini	BSc, nutritionist	Changing dietary intake and nutritional status in pregnant women and children during the economic crisis in Indonesia
Fikru Tesfaye	MD, Community health	Surveillance of risk factors for non-communicable diseases in Butajira district, Ehtiopia
Nguyen Zuan Thang	MD	The "injury poverty trap" – causes, consequences and possible solutions
Susanne Waldau	Journalist	Needs among patients with coronary heart disease in the region of Västerbotten, Sweden. A qualitative study of a negotiation process
Eliette Valladares Cordoza	MD, gynecologist	Physical abuse, psychosocial factors and pregnancy outcomes in Nicaragua
Jintana Yanai	Nurse, MA (dissertation	The socio-cultural dimension of tuberculosis in the HIV/AIDS epidemic area, Thailand
Kajsa Åsling Monemi	MD, paediatrician	Impact of domestic violence and mothers socio-economic conditions on infant and under five mortality in Nicaragua
Hoang Van Minh	MD	Cardiovascular diseases in Bavi district, Vietnam: A journey from the past to the future

Table 6. Visiting scientists and guest researchers at the division during 2003.

Bangladesh	Rubina Shaheen	ICDDRB, Dhaka
Ethiopia	Fikru Tesfaye	Community Health Department, Addis Ababa University
	Mesganaw Fantahu Afework	Community Health Department, Addis Ababa University
	Yemane Berhane	Community Health Department, Addis Ababa University
Indonesia	Nawi Ng	Public Health, Gadjah Mada University, Jogjakarta
Malawi	Fyson Kasenga	Malamulo SDA Hospital, Makwasa
Nicaragua	Elliette Valladares	Obstetrics, UNAN-León, León
	Rodolfo Peña	Obstetrics, UNAN-León, León
	Felix Zelaya	Obstetrics, UNAN-León, León
South Africa	Saadhna Panday	South Africa
Sweden	Anna Thorson	IHCAR
	Thomas Källqvist	Sida/Sarec
	Margareta Persson	Swedish Federation of County Councils, Stockholm
USA	Paul Jenkins	Basset Research Institute, Cooperstown, New York
	Anne Nafziger	Basset Research Institute, Cooperstown, New York
Vietnam	Nguyen Xuan Thanh	Medical Economics, Hanoi Medical University, Hanoi
	Hoang Van Minh	Public Health, Hanoi Medical University, Hanoi
	Chuc Nguyen Thi Kim	Institute of Health Strategy and Policy, Hanoi
	Hoang Minh Hang	Biostatistics, Hanoi Medical University, Hanoi
	Dao Lan Huong	Institute of Health Strategy and Policy, Hanoi
Zimbabwe	Jeremiah Chikovore	Psychiatry, Bulawayo College of Health, Bulawayo

We have also close links with several departments in Umeå. We thus share tutorial responsibilities and collaborate with relevant nearby clinics as well as social science departments and other national institutions. Internationally, bilateral collaborations with. Within the research collaborations a so called sandwich model is applied. This means that both senior staff and research students frequently visit our partners both for supervision and actual field work.

5. ADVOCACY

Consultancy and advisory functions

We have participated in public health processes through memberships 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 hundred public health education activities, both for basic public health training and disseminations of public health research.

We are also engaged in various consultancy and advisory functions. Some of these missions during 2003 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. 2003 four such grants were administered by our department. Reports from all the field studies are now being published in a report series (p. 84).

Scandinavian Journal of Public Health

The Scand Journal of Public Health continues to be hosted by our division. Since 2000 Stig Wall has been the Editor in Chief, Maria Emmelin the Managing Editor and Lena Mustonen the Editorial Assistant. As of 2003 we are happy to have included professor Urban Janlert as deputy Editor in Chief. He is also taking an overall responsibility for updating the public health calendar and the Swedish public health web sites and for introducing the section on public health events. By the end of 2003 we had received a total of 600 manuscripts and at present we have reached an acceptance rate of 35 %. Today, authors have a decision about their manuscript within 3 months for more than 45 % of the manuscripts, partly due to an increased pool of reviewers but also to an increased goodwill and improvement in the editorial office routines. The statistical review of all manuscripts that are on the verge of being accepted may slow down the process but it is crucial for the quality of published articles. Our annual taxonomy of manuscripts reveals that the areas of epidemiology, social medicine and health services research are still well covered, while health economy, medical sociology and public health policy and relatively few as well as articles utilising qualitative methodology. In an editorial we have given a detailed account of the editorial process and of the evaluation tools developed to increase the quality of what is published [25]. The PreView system is now working better and accepted and proof-read manuscripts should be available from our homepage "http://www.tandf.no/sjpublic". The WHO initiated HINARI (Health InterNetwork access to Research Initiative

http://www.healthinter-network.org) will hopefully also increase the availability of our journal.

We have continued our ambition to host supplements focusing on central public health research and policy. During 2003 we published an English version of the Swedish "Welfare Balance Sheet", one supplement with articles from health system research in Vietnam and another summarising the basic findings from the Northern MONICA project on cardiovascular disease and its risk factors. Forthcoming supplements include an international evaluation of Swedish Public Health Research and a Report from SBU, the Swedish Board of Health Technology Assessment on Sick-leave and Social Insurance Research.

We are very happy for the continuing commitment of our co-editors as well as the support from the Executive Board and the publisher. The publication grant from the Swedish Council for Working Life and Social Research is important and enables the Editorial Board to meet once a year to reflect, evaluate and discuss overall policy issues. This year the meeting was held at the University of Rochester, department of community medicine and hosted by co-editor, Professor Tom Pearson. In connection with the board meeting the visiting members were also invited to hold a seminar about the challenges of the Nordic welfare systems.

We feel that the journal has developed in a positive direction. The increase from four to six issues per year has worked smoothly and shortened the time to publication. The highlight page summarising some of the articles to be published in forthcoming issues has become an informative routine that works well. The Editorials on the current policy development in all the Nordic countries were appreciated and published in a special issue to be used in marketing of the journal as well as in public health training. We also appreciate that our publisher has agreed to make a special subscription offer of the journal to all public health students in the Nordic countries.

Editorial Board meeting in Rochester, September 2003

Table 7. Consultancy and advisory functions of staff members

Staff member	Function	Duration
Monika Appel	Performed a commissioned research work for the National Agency for Higher Education	2001/2002
Peter Byass	Editorial consultant to the Ethiopian Journal of Health Development	2002-
Curt Edlund	Co-ordinator of a national network in Research of Sickness (SPID)	1999-
Anneli Ivarsson	Member of the Working group on Coeliac disease within the Swedish Paediatric Associations section Gastroenterology and Nutrition	1991-
	Member of the Practical Scientific Advisory Board for GENOS	2001-
Urban Janlert	Chairman of the group working with the Barents region within the East Europe Committee of the Swedish Health Care Community (SEEC)	1999-
	Member of the Research Ethics Committee	2000-
	Chairman for the Swedish Association of Social Medicine	2002-
Lars Lindholm	Board members of the National Expert Group on A Health Promoting Medical Service, organised by the National Public Health Institute	2003-
Maria Nilsson	Member of an expert group for the National tobacco control program.	2002-
	Swedish representative in the advisory board of ENYPAT (European Network on Young People and Tobacco)	2000-
Lennart 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-
Måns Rosén	Member of the scientific priority committee for public health of the Swedish Research Council	2000-
	Member of the scientific priority committee for public health of the Swedish Council for Working Life and Social Research	2001-03
	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	
	Swedish representative in the Management committee for the Health Monitoring Programme	
	Member of the Advisory Committee to the European Commission for Statistics in the Economic and Social Spheres	
Berndt Stenberg	Memberof the Swedish Contact Dermatitis Research Group	1986-
	Member of the executive group for the Swedish Dermato-Epidemiology Network	1995-
	Member of the executive group for the Swedish Psoriasis Network	2002-
	Country representative in the Council for the European Society for Contact Dermatitis (ESCD)	
Stig Wall	Board member of the Epidemiologic Centre at the National Board of Health and Welfare	1993-
	Board member of CHESS, Center for Health Equity Studies	1999-
	Permanent scientific adviser to the National Board for Health and Social Welfare	1987-
	Deputy chair of the Scientific advisory Committee of INDEPTH the International Network for demographic field sites.	2003-
	Member of the editorial committee for the National Public Health Reports	1994, 1997, 2001, 2005
	Editorial consultant to the Ethiopian Journal of Health Development	2002-
	Deputy member of the Employment Board of the Medical faculty in Umeå	1999-
Lars Weinehall	Member of the peer review committee at Swedish council for working life and social research	2001-03
	Board members of the National Expert Group on A Health Promoting Medical Service, organised by the National Public Health Institute	2003-
Anna Winkvist	Editor for Dateline Europe and the Middle East of Nutrition Notes	2001-
	Co-ordinator of the national network in nutritional epidemiology (NEON)	1998-

6. LIST OF PUBLICATIONS

Original articles

1. Abildstrom SZ, Rasmussen **S, Rosén M**, Madsen M. Trends in incidence and care fatality rate of acute myocardial infarction in Denmark and Sweden. *Heart* 2003;89:507-11.
2. Ahlberg BM, Mtwewe S, Poggensee G, Feldmeier H, **Krantz I**. Better infection than hunger? A study of illness perceptions with special focus on urinary schistosomiasis in Northern Tanzania. *African Sociological Review*. 2003;7:18-34.
3. Ahlberg BM, **Krantz I,** Lindmark G, Warsame M. "It is only a tradition": Making sense of eradication and persistence of female "circumcision" within a Swedish context. *Critical Social Policy.* In press.
4. **Appel ML**, **Dahlgren LG**. Swedish doctoral students' experiences on their journey towards a PhD: obstacles and opportunities inside and outside the academic building. *Scand J Educ Res* 2003;47:89-110.
5. Asplund K, Nasic S, **Janlert U,** Stegmayr B. Smokeless tobacco as a possible risk factor for stroke in men: a nested case-control study. *Stroke* 2003;34:1754-9.
6. Asplund K, **Wall S**. The Northern Sweden MONICA project: concluding remarks. *Scand J Public Health*. 2003;31(Suppl 61):78-84.
7. Barnekow-Bergkvist M, Hedberg G, **Janlert U,** Jansson E. Health status and health behaviour in men and women at the age of 34. *Eur J Public Health*. In press.
8. Bjurstam N, Björneld L, Warwich J, Sala E. Duffy SW, **Nyström L**, Walker N, Cahlin E, Eriksson O, Hafström L-O, Lingaas H, Mattsson J, Persson S, Rudenstam C-M, Salander H, Säve-Söderbergh J, Wahlin T. The Gothenburg breast screening trial. *Cancer* 2003;97:2387-96.
9. Borg H, Arnqvist HJ, Björk E, Bolinder J, Eriksson JW, **Nyström L**, Jeppsson JO, Sundkvist G. Evaluation of the new ADA and WHO criteria for classification of diabetes mellitus in young adult people (15-34 yrs) in the Diabetes Incidence Study in Sweden (DISS). *Diabetologia* 2003;46: 173-81.
10. Boström G, **Rosén M**. Measuring social inequalities in health--politics or science? *Scand J Public Health* 2003;31:211-5.
11. Buitron D, **Hurtig AK, San Sebastian M**. Nutritional status in indigenous children under five in the Amazon region of Ecuador. *Rev Panam Salud Publica* [in Spanish]. In Press.
12. **Byass P,** Berhane Y, **Emmelin A, Wall S**. Patterns of local migration and their consequences in a rural Ethiopian population. *Scand J Public Health* 2003;31:58-62.
13. **Byass P**. Empirical modelling of population sampling: lessons for designing sentinel surveillance. *Public Health* 2003;117: 36-42.
14. **Byass P**. Patterns of mortality in Bavi Vietnam, 1999-2001. *Scand J Public Health* 2003;31 (Suppl 62) :8-11.
15. **Byass P,** Huong DL, Minh HV. A probabilistic approach to interpreting verbal autopsies: methodology and preliminary validation in Vietnam. *Scand J Public Health* 2003;31 (Suppl 62): 32-37.
16. **Chikovore J, Nyström L**, Lindmark G, Ahlberg BM. Denial and violence: Paradoxes in men's perspectives to premarital sex and pregnancy in rural *Zimbabwe. Afr Soc Review* 2003;7:53-72.
17. Christiansen M, Johansson E, **Emmelin M**, Westman G. "One-night-stands" - risky trips between lust and trust. Qualitative interviews with Chlamydia Trchoais infected youth in north Sweden. *Scand J Public Health* 2003;31:44-50.
18. Cronesten H, Johansson H, **Öhman A.** Insikt, motivation och stöd är viktiga faktorer för viktnedgång – uppfattningar från ett förebyggande hälsoprojekt. *Nordisk Fysioterapi, 2003;7:1-8.*

19. Chuc NTK, Diwan V, Huong DL, **Byass P**. (eds). "Public Health in Bavi, Vietnam - a collaborative project". *Scand J Public Health* (2003), 31; (Suppl.62).

20. Danielsson I, Sjöberg I, **Stenlund H**, Wikman M. Dyspareunia in women is common, particularly in younger women. Pain history and the women's age provide valuable clues for diagnosis]. *Läkartidningen* [in Swedish] 2003;100: 2128-32.

21. Danielsson I, Sjöberg I, **Stenlund H,** Wikman M. Prevalence and incidence of prolonged and severe dyspareunia in women: results from a population study. *Scand J Public Health* 2003;31:113-8.

22. **Edlund C.** Idealtyper av försäkringskassans rehabiliteringshandläggare. *Socialmedicinsk Tidskrift* 2003:2,185-191.

23. Elfving AM, Lindberg BA, **Nyström L**, Sundkvist G, Lernmark A, Ivarsson SA and the DISS Study Group. Islet autoantibodies in cord blood from patients who developed Type 1 diabetes mellitus at 15-30 years of age. *Autoimmunity* 2003;36:227-31.

24. Ellberg L, Persson M, Lundman B, **Högberg U**. The early discharge and family suite programs do not increase health care utilization after birth. *J of Obstetric, Gynecological and Neonatal Nursing*. In press.

25. **Emmelin M, Wall S.** Our editorial process – some experiences and reflections [Editorial]. *Scand J Public Health* 2003;31: 161-68.

26. **Emmelin M, Weinehall L,** Stegmayr B**, Dahlgren L, Stenlund H, Wall S:** Self-rated ill-health strengthens the effect of biomedical risk factors in predicting stroke, especially for men - an incident case referent study. *J Hypertension* 2003;21:887-96

27. Fredriksson G, Lundman B, **Högberg U**. Security, participation and integrity is a common need regardless of early postpartum discharge or family suite. *Midwifery* 2003;19:267-276.

28. Ghebreyesus TA, **Byass P**, Witten KH, Getachew A, Haile M, Yohannes M, Lindsay SW. Appropriate tools and methods for tropical microepidemiology: a case-study of malaria clustering in Ethiopia. *Ethiop J Health Dev* 2003;17:1-8.

29. Glas B, Levin JO, **Stenberg B**, **Stenlund H** and Sunesson A-L. The variability of personal chemical exposure in eight office buildings. *JEAEE*. In press.

30. **Goldin S**, Levin L, Persson LÅ, Hägglöf B. Child war trauma: A comparison of clinician, parent and child assessments. *Nord J Psychiatry*. 2003;57:173-83.

31. Gossaye Y, Deyessa N, Berhane Y, Ellsberg M, **Emmelin M,** Ashenafi M, Alem A, Negash A, Kebede D, Kullgren G, **Högberg U**. Women´s health and life events study in rural Ethiopia. *Eth J Health Development* 2003;17:Second Special Issue: 2-50.

32. Gustavsson M, Ekholm J, **Öhman A**. From shame to respect – musculoskeletal pain patients' experiences of rehabilitation. *Rehabilitation Medicine.* In press.

33. Hallmans G, Jie-Zian Zhang, Lundin E, Stattin P, Johansson A, Johansson I, Hultén K, **Winkvist A**, Lenner P, Adlercreutz H. Rye, lignans and human health. *Proc Nutr Soc* 2003;62:193-99.

34. Hallmans G, Ågren Å, Johansson G, Johansson A. Stegmayr B, Jansson J-H. Lindahl B, Rolandsson O, Söderberg S, Nilsson M, Johansson I, **Weinehall L**. Cardiovascular disease and diabetes in the Northern Sweden Health and Disease Study Cohort – evaluation of risk factors and their interactions. *Scand J Public Health*. 2003;31 Suppl 61:65-71.

35. Hammarström A, **Janlert U**. Unemployment -- an important predictor for future smoking: a 14-year follow-up study of school leavers. *Scand J Public Health* 2003;31:229-32.

36. Hammarström A, **Janlert U**. An agenda for unemployment research – a challenge for public health. *Int J Health Service.* In press.

37. Hang HM, Ekman R, Bach TT, **Byass P**, Svanstrom L. Community-based assessment of unintentional injuries: a pilot study in rural Vietnam. *Scand J Public Health* 2003;31(Suppl 62):38-44.

38. Hang HM, **Byass P**, Svanström L. "Incidence and seasonal variation of injury in rural Vietnam: a community-based survey. *Safety Science*. In press.

39. Hartini TN, **Winkvist A**, **Lindholm L, Stenlund H**, Surjono A. Food patterns during an economic crisis among pregnant women in Purworejo District, Central Java, Indonesia. *Food Nutr Bull*. 2003;24:256-67.

40. **Hartini TNS**, **Winkvist A, Lindholm L, Stenlund H**, Persson V, Nurdiati DS, Surjono A. Nutrient intake and iron status of urban and rural poor without access to rice fields are affected by the emerging economic crisis: the case of pregnant Indonesian women. *Eur J Clin Nutr* 2003: 57:654-66.

41. Henricsson M, **Nyström L**, Blohmé G, Östman J, Kullberg C, Svensson M, Schölin A, Arnqvist HJ, Björk E, Bolinder J, Eriksson JW, Sundkvist G. The incidence of retinopathy 10 years after diagnosis in young adult people with diabetes. *Diabetes Care* 2003;26:349-54.

42. **Hurtig AK, San Sebastian M**. Epidemiology on the side of the angels...Or the people? *Int J Epidemiol* 2003;32:658-9; author reply 659.

43. **Hurtig AK, San Sebastián M**, Soto A, Shingre A, Zambrano D, Guerrero W. Pesticide use among farmers in the Amazon basin of Ecuador. *Arch Environ Health* 2003;58:223-228.

44. **Hurtig AK** and **San Sebastián M**. Incidence of childhood leukaemia and oil exploitation in the Amazon basin of Ecuador. *Int J of Occupational and Environmental Health*. In press.

45. Huong DL, **Byass P**. FilaBavi and the future of community-based health research in Vietnam. *Scand J Public Health*. 2003;31 (Suppl 62): 76-7.

46. **Huong DH, Minh HV, Byass P**. Applying verbal authopsy to determine cause of death in rural Vietnam. *Scand J Public Health* 2003;31 (Suppl 62) :19-25.

47. **Huy TQ, Long NH, Hoa DP, Byass P, Eriksson B**. Validity and completeness of death reporting and registration ina rural district of Vietnam. *Scand J Public Health* 2003;31 (Suppl 62): 12-18.

48. Håkansson S, Faaroqi A, Holmgren PÅ, Serenius S, **Högberg U**. Proactive management promotes infant outcome after extremely preterm birth - a population based comparison of two perinatal management strategies. *Pediatrics*. In press.

49. **Högberg U.** Community Midwives: a primer for improved reproductive health in 19th Century Sweden. *Am J Publ Health.* In press.

50. **Högberg U**. An 'American dilemma' in Scandinavian childbirth: unmet needs in health care? *Scand J Publ Health* In press.

51. **Ivarsson A**, Hernell O, **Nyström L,** Persson LÅ. Children born in the summer have an increased risk for coeliac disease. *J Epidemiol Community Health* 2003;57:36-9.

52. **Ivarsson A,** Persson LÅ, **Nyström L**, Hernell O. The Swedish coeliac disease epidemic with a prevailing two-fold higher risk in girls compared to boys may reflect gender specific risk factors. *Eur J Epidemiol* 2003;18:677-84.

53. **Janlert U**, Holmgren L. Psychosocial factors in the Northern Sweden MONICA project. *Scand J Public Health* 2003;31 Suppl 61:25-29.

54. Jonsson H, **Nyström L,** Törnberg S, Lundgren B, Lenner P. Service screening with mammography. Long-term effects on breast cancer mortality in the county of Gävleborg, Sweden. *The Breast* 2003;12: 183-93.

55. Jonsson H, Törnberg S, **Nyström L**, Lenner P. Service screening with mammography of women aged 70-74 years in Sweden. Effects on breast cancer mortality. *Cancer Detect Prev* 2003;27:360-9.

56. **Krantz I**, Sachs L, Nilstun T. Ethics and vaccination. *Scand J Public Health*. In press.

57. **Källestål C and Stenlund H**. Different analytical approaches in an experimental cohort study on preventive measures for caries in adolescents. A comparison between incidence density and increment analysis. *Caries Res* 2003;37:44-50.

58. **Källestål C,** Norlund A, Söder B, Nordenram G, Dahlgren H, Petersson LG, Lagerlöf F, Axelsson S, Lingström P, Mejàre I, Holm AK, Twetman S. Dietary factors in the prevention of dental caries: a systematic review. *Acta Odontol Scand* 2003;61:341-46.

59. Köster M, Andersson J, Carling K, **Rosén M**. Dödlighet efter hjärtinfarkt har minskat i nästan alla landsting under 1990-talet. Störst förbättringar i de landsting som hade sämst resultat från början. (In Swedish) *Läkartidningen* 2003;100:2838-44.

60. Lan Huong D, **Byass P**. FilaBavi and the future of community-based health research in Vietnam. *Scand J Public Health.* 2003;31 (Suppl 62) :76-7.

61. **Lind T**, Lönnerdal B, Persson LÅ, **Stenlund H**, Tennefors C, Hernell O. Effects of weaning cereals with different phytate contents on hemoglobin, iron stores, and serum zinc: a randomized intervention in infants from 6 to 12 mo of age. *Am J Clin Nutr* 2003;78:168-75.

62. **Lind T**, Lönnerdal B, **Stenlund H**, Ismail D, Seswandhana R, Ekström EC, **Persson LÅ**. A community-based randomized controlled trial of iron and zinc supplementation in Indonesian infants: interactions between iron and zinc. *Am J Clin Nutr* 2003;77:883-90.

63. Lindahl B, Stegmayr B, Johansson I, **Weinehall L**, Hallmans G. Trends in lifestyle 1986-99 in a 25- to 64-year–old population of the Northern Sweden MONICA project. *Scand J Public Health* 2003;31(Suppl 61):18-24.

64. **Lindholm L**, Thanh NX. The role of health economics in Vietnam: a tentative research agenda. *Scand J Public Health* 2003;31 (Suppl 62) :66-9.

65. Lindsten H, **Stenlund H**, Forsgren L. Leisure time and social activity after a newly diagnosed unprovoked epileptic seizure in adult age. A population-based case-referent study. *Acta Neurol Scand* 2003;107:125-33.

66. Lingström P, Holm AK, Mejàre I, Twetman S, Söder B, Norlund A, Axelsson S, Lagerlöf F, Nordenram G, Petersson LG, Dahlgren H. **Källestål C**. Dietary factors in the prevention of dental caries: a systematic review. *Acta Odontol Scand* 2003;61:331-40.

67. Littorin B, **Nyström L**, Gullberg B, Råstam L, Östman J, Arnqvist HJ, Björk E, Blohmé G, Bolinder J, Eriksson JW, Scherstén B, Sundkvist G. Increasing body mass index at diagnosis of diabetes in young adult people during 1983-1999 in the Diabetes Incidence Study in Sweden (DISS). *J Intern Med* 2003;254:251-56.

68. Lundqvist G, **Weinehall L**. Smokers in Västerbotten County, Sweden. *Scand J Prim Health Care* 2003;21:237-241.

69. Majoko F, Munjanja S, **Nyström L**, Mason E, Lindmark G. Field efficiency of syphilis screening in antenatal care: lessons from Gutu District in Zimbabwe. Cent Afr J Med 2003;49:90-3.

70. Mejàre I, **Stenlund H**, Zelezny-Holmlund. Caries incidence and lesion progression from adolescence to young adulthood: a prospective 15-year cohort study in Sweden. *Caries Res*. In press.

71. Mejàre I, Lingström P, Petersson LG, Holm AK, Twetman S, **Källestål C**, Nordenram G, Lagerlöf F, Söder B, Norlund A, Axelsson S, Dahlgren H. Caries-preventive effect of fissure sealants: a systematic review. *Acta Odontologica Scandinavica* 2003;61:321-30.

72. Minh HV**, Byass P, Wall S**. Mortality from cardiovascular diseases in Bavi District, Vietnam. *Scand J Public Health* 2003;31 (Suppl 62) :26-31.

73. **Mogren I**, Lindahl B, **Högberg U**. Impaired fasting glucose and impaired glucose tolerance are related to both heredity and low birth weight. *Scand J Public Health* 2003;31:382-8.

74. **Mogren I,** Malmer B, Tavelin B, Damber L. Reproductive factors have low impact on the risk of different primary brain tumours in offspring. *Neuroepidemiology* 2003;22:249-54.

75. Månsson A, **Lindholm L, Öhman A**. Women, Men and Public Health – how the choice of normative theory affects resource allocation. *Health Policy*. In press.

76. Novak D, **Lindholm L**, Jonsson M, Karlsson R. A Swedish cost-effective analysis of community-based Chlamydia trachomatis PCR testing of postal urine specimen obtained at home. *Scand J Public Health*. In press.

77. **Oscarson N**, **Källestål C**, Fjelddahl A, **Lindholm L**. Cost-effectiveness of different caries preventive measures in a high-risk population of Swedish adolescents. *Community Dent Oral Epidemiol* 2003;31: 169-78.

78. Panday S, Reddy SP, **Bergström E**. A qualitative study on the determinants of smoking behaviour among adolescents in South Africa. *Scand J Public Health* 2003; 31:204-10

79. Persson M, Carlberg B, **Weinehall L**, Nilsson L, Stegmayr B, Lindholm LH. Risk stratification by guidelines compared with risk assessment by risk equations applied to a MONICA sample. *J Hypertens* 2003;21:1089-95.

80. Petersen S, **Bergström E**, Brulin C. High prevalence of tiredness and pain in young schoolchildren. *Scand J Public Health* 2003;31:367-74.

81. Petersen S, Brulin C, **Bergström E** Increasing prevalence of overweight in young schoolchildren in Umeå, Sweden, from 1986 to 2001. *Acta Paediatr* 2003;92: 848-53.

82. Pommer L, Fick J, Andersson B, Sundell J, Nilsson C, Sjöström M, **Stenberg B.** Separation of helthy and sick buildings in the Swedish office illness study by principal component analysis. *Indoor Air*. In press.

83. Quizhpe E, **San Sebastian M, Hurtig AK**, Llamas A. Prevalence of anaemia in schoolchildren in the Amazon area of Ecuador. *Rev Panam Salud Publica* [In Spanish] 2003;13:355-61.

84. Rasmussen S, Abildström SZ, **Rosén M,** Madsen M. Trends in short-term and long-term prognosis after acute myocardial infarction in Denmark and Sweden: comparison of outcome measures based on national administrative databases. *J Clin Epidemiology*. In press.

85. Rantapää-Dahlqvist S, De Jong BA, Berglin E, Hallmans G, Wadell G, **Stenlund H**, Sundin U, Van Venrooij WJ. Antibodies against cyclic citrullinated peptide and IgA rheumatoid factor predict the development of rheumatoid arthritis. *Arthritis Rheum* 2003;48:2741-9.

86. Ringbäck Weitoft G, Hjern A, Haglund B, **Rosén M**. Mortality, severe morbidity and injury in children living with single parents in Sweden: a population-based study. *Lancet* 2003;361:289-95.

87. Ringbäck Weitoft G, Hjern A, **Rosén M**. School's out! Why earlier among children of lone parents? *Scand J Social Welfare*. In press.

88. Rosengren A, Thelle DS, Köster M, **Rosén M**. Changing sex ratio in acute coronary heart disease. Data from Swedish national registers 1984 to 1999. *J Intern Med* 2003;253:301-10.

89. Röding J, Lindström B, Malm J, **Öhman A**. Frustrated and invisible – younger stroke patients' experiences of the rehabilitation process. *Disability and Rehabilitation* 2003: 25; 867-874.

90. **San Sebastian M, Hurtig AK**. Oil exploitation in the Amazon basin of Ecuador: a public health emergency. *Panam J Public Health*. In Press.

91. Sandström M, Lyskov E, Hornsten R, Hansson Mild K, Wiklund U, Rask P, Klucharev V, **Stenberg B**, Bjerle P. Holter ECG monitoring in patients with perceived electrical hypersensitivity. *Int J Psychophysiol* 2003;49:227-35.

92. Schaufelberger M, Swedberg K, Köster M, **Rosén M.** Decreasing one-year mortality and hospitalisation rates for heart failure in Sweden. Data from the Swedish hospital discharge registry 1988 to 2000. *Eur Heart J.* In press.

93. Schölin A. Björklund L, Borg H, Arnqvist H, Björk E, Blohmé G, Bolinder J, Eriksson JW, Gudbjörnsdottir S, **Nyström L**, Östman J, Karlsson AF, Sundkvist G. Islet antibodies and remaining β-cell function 8 years after diagnosis of diabetes in young adults: a prospective follow-up of the nationwide Diabetes Incidence Study in Sweden. *J Intern Med* 2004;255:384-91.

94. Sérden L, Lindqvist R, **Rosén M**. Have DRG-prospective payment systems influenced the number of secondary diagnoses in health care administrative data? *Health Policy* 2003;65:101-7.

95. Simms I, **Hurtig AK**, Rogers PA, Hughes G, Fenton KA. Surveillance of sexually transmitted infections in primary care. *Sex Transm Infect*. 2003;79:174-6.

96. Solomon P, **Öhman A**, Miller P. A follow-up study of career choice and professional socialization of physiotherapists. *Canadian Physiotherapy*. In press.

97. **Stenberg B,** Nyberg E, Lundqvist EN, Svensson A, Meding B. [Shortages of population studies according a survey. Questions concerning skin allergy and hypersensitivity should be coordinated and unified] *Läkartidningen* [in Swedish] 2003;100:213-7.

98. **Stenlund H**, Mejàre I, **Källestål C**. Caries incidence rates in Swedish adolescents and young adults with particular reference to adjacent approximal tooth surfaces: a methodological study. *Community Dent Oral Epidemiol* 2003;31:361-7.

99. Sundström P, **Nyström L,** Forsgren L. Incidence (1988-97) and prevalence (1997) of multiple sclerosis in Västerbotten County in northern Sweden. *J Neurol Neurosurg Psychiatry* 2003;74:29-32.

100. Sundström P, **Nyström L,** Svenningsson A, Forsgren L. Sick leave and professional assistance for multiple sclerosis individuals in Västerbotten County, northern Sweden. *Multiple Sclerosis* 2003;9:515-20.

101. Svensson M, Sundkvist G, Arnqvist HJ, Björk E, Blohmé G, Bolinder J, Henricsson M, **Nyström L**, Torffvit O, Waernbaum I, Östman J, Eriksson JW. Signs of nephropathy may occur early in young adults with diabetes despite modern diabetes management: results from the nationwide population-based Diabetes Incidence Study in Sweden (DISS). *Diabetes Care* 2003;26:2903-9.

102. Talbäck M, Stenbeck M,**Rosén M**, Glimelius B. Cancer survival in Sweden 1961-1998. Development across four decades. *Acta Oncologica* 2003;42:637-59.

103. Thanh NX, Hang HM, Chuc NTK**, Lindholm L**. The economic burden of unintentional injuries: a community-based cost analysis in Bavi, Vietnam. *Scand J Public Health* 2003;31 (Suppl 62) :45-51.

104. Tunbäck P, Bergström T, Andersson AS, Nordin P, **Krantz I**, Löwhagen GB. Prevalence of herpes simplex virus anti-bodies in childhood and adolescence: a cross-sectional study. *Scand J Infect Dis* 2003;35:498-502.

105. Twetman S, Axelsson S, Dahlgren H, Holm AK, **Källestål C**, Lagerlöf F, Lingström P, Mejàre I, Nordenram G, Norlund A, Petersson LG, Söder B. Caries-preventive effect of fluoride toothpaste: a systematic review. *Acta Odontol Scand* 2003;61:347-55.

106. Urassa DP, **Nyström L**, Carlstedt A, Msamanga GI, Lindmark G. Management of hypertension in pregnancy as a quality indicator of antenatal care in rural Tanzania. *Afr J Reproductive Health* 2003; 7:69-76.

107. Utarini A, **Winkvist A,** Ulfa FM. Rapid assessment procedures of malaria in low endemic countries: community perceptions in Jepara District, Indonesia. *Soc Sci Med* 2003;56:701-12.

108. Uttjek M, Dufåker M, Nygren L and **Stenberg B**. Determinants of quality of life in a psoriasis population in northern Sweden. Acta Dermatovenerol. In press.

109. **Weinehall L**. The emerging epidemic of cardiovascular disease. History and back-ground of the Northern Sweden initiative on cardiovascular disease. *Scand J Public Health*. 2003;31 Suppl 61:5-8.

110. **Winkvist A**, Rasmussen, KM, Lissner L. Associations between reproduction and maternal body weight: examining the component parts of a full reproductive cycle. *Eur J Clin Nutr* 2003;57:114-27.

111. Åberg K, **Öhman A**, Lundin-Olsson L. Disparata yrkesfunktioner och ett okänt team – uppfattningar från äldreomsorgen. *Nordisk Fysioterapi*. In press.

112. **Åsling-Monemi K,** Peña R, Ellsberg MC, Persson LÅ. Violence against women increases the risk of infant and child mor-

tality: a case-referent study in Nicaragua. *WHO Bull* 2003;81:10-18.

113. **Öhman A**, Solomon P, Finch E. Attitudes toward the profession and development of professional identity during physiotherapy education. *Adv Physiother*. In press.

Books and other publications

114. **Appel M.** Forskarhandledning. Möte med vandrare och medvandrare på vetenskapens vägar. Högskoleverkets rapportserie 2003:26R.

115. **Eriksson, M**. *Socialt kapital. Teori, begrepp och mätning – en kunskapsöversikt* med fokus på folkhälsa. CERUM Working Paper 60:2003. Umeå Universitet.

116. Gillander Gådin, K, Hammarström, A, Edlund, C Sjukfrånvaro i Västerbotten med fokus på kvinnor i offentlig sektor. Västerbottens läns landsting, Institutionen för folkhälsa och klinisk medicin, Umeå universitet, Försäkringskassan i Västerbottens län, 2003.

117. Högberg U. Barnet och badvattnet – från bekämpande av mödradöd till familje-BB och tidig hemgång. SFOG 100 år. In press.

118. Ivarsson A. Celiac disease - is there a dietary prevention? In: Stern M, ed. Proceedings of the 18th meeting of the working group on prolamin analysis and toxicity, 2-4 October 2003, Stockholm, Sweden.

119. Ivarsson A, Persson LÅ, Hernell O. Primary prevention of coeliac disease by favourable infant feeding practices. In Catassi C, Fasaono A, Corazza GR, eds. Primary prevention of coeliac disease. The utopia of the new millenium? Perspectives in Coeliac Disease, vol 1, pp 43-60. Pisa, Italy: AIC Press, 2003.

120. Krafft S-O, Candefjord J & Edlund C. SASSAM - arbetsmetod och övningar med SASSAM-kartan, Riksförsäkringsverket 2003.

121. Källestål C, Strömberg N. Ett framtidsscenario för kariesdiagnostik och behandling. I Odontologisk Årsbok, Munksgaard, 2003.

122. Oscarsson N. Costs and cost-effectiveness of different caries-preventive measures in youth dental care in Sweden. Licentiate thesis. Umeå University 2003.

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125. Rosén M. Kan hälsoutveckling förklara ökad sjukskrivning under 1990-talet? Pp 46-59. I "Sjukskrivningt – försäkring eller försörjning". Rapport från forskarseminariet i Umeå, januari 2003. Stockholm: Försäkringskasseförbundet, 2003 (Fakta & Debatt nr 1, 2003).

126. Sahlén, Löfgren, Lindholm, 2004. En kostandsanalys av förebyggande hembesök I Nordmaling. Folkhälsoinsitutets rapportserie, under tryckning.

127. Ngamvithayapong-Yanai, J. Challenges and opportunities for tuberculosis prevention and care in an HIV epidemic area, Chiang Rai, Thailand. PhD dissertation, IHCAR, Karolinska Institute, Stockholm and Epidemiology and Public Health Sciences, Dept of Public Health and Clinical Medicine, Umeå University. Stockholm 2003.

Submitted articles

128. Ali M, Asefaw T, Byass P, Beyene H, Pedersen FK. Reducing childhood mortality in northern Ethiopia: a community-based intervention trial.

129. Dahlblom K, Peña R, Herrera RA, Dahlgren L. Home alone – children as caretakers in León, Nicaragua.

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131. Emmelin M, Weinehall L, Stenlund S, Wall S, Dahlgren L. To be seen, confirmed and involved - a ten year follow-up of perceived health and cardiovascular risk factors in a Swedish community intervention programme.

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151. Utarini A, Nyström L, Soedarso GW, Chandramohan D. Malaria morbidity trends in the Jepara District, Central Java, Indonesia 1980-1999.

152. Utarini A, Chandramohan D, Nyström L. Performance and role of active and passive case detection systems in Jepara District, Indonesia.

153. Winkvist A, Ellsberg M, Hakimi M, Hayati EN. Effect of domestic violence on maternal nutrition and reproduction: evidence from studies in Indonesia and Nicaragua.

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