Our **VISION** is to be a leading academic centre for research and education which contributes to equitable and sustainable improvements in health and welfare across the globe.

Our **MISSION** is to conduct ethically sound, transdisciplinary, and innovative research and education, and to engage with society.

Our daily work is guided by the following **VALUES**:

- A concern for ethics, equity, empowerment, and the environment
- Freedom of thought and expression
- Open mindedness and mutual respect

September 2013
Epidemiology and Global Health
Umeå University
SWEDEN
http://www.phmed.umu.se/english/divisions/epidemiology/

Annual Report 2013

Department of Public Health and Clinical Medicine
UMEÅ CENTRE FOR GLOBAL HEALTH RESEARCH
Umeå International School of Public Health
Epidemiology and Global Health

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Epidemiology and Global Health

Printed by Print & Media, Umeå, Sweden 2014

Prologue

To all staff, collaborators and other colleagues,

One more year has (quickly) passed by! Our Unit Epidemiology and Global Health continues to develop successfully thanks to the enthusiastic and skilful efforts of all staff members. You can read about some of our many achievements in this Annual Report for 2013. *We as leadership are proud, and hope that you as a valued member of staff share this sense of achievement with us!*

How do we measure success? According to Umeå University's formal metrics we are certainly successful with an increased number of publications and PhD graduations, and increased external grants awarded in competition. This is good and to be applauded, but most importantly our work is built on a shared purpose to contribute to change.

After careful thought and many discussions, we finally agreed on how to phrase our Vision-Mission-Values – which you will find highlighted at the front of this report. These words are meant to guide our daily work internally and externally, when working locally-nationally-internationally, and when working in research-teaching-engaging with society. This should be a living document or manifesto, revisited when necessary, and a reminder that we also measure success in how well we contribute to equitable and sustainable improvements in health and welfare across the globe.

Our organizational structure often gives rise to questions and on page 12 you find it outlined. We are part of Umeå University and are located within the Medical Faculty and its Department of Public Health and Clinical Medicine. Our Unit – Epidemiology and Global Health – hosts the Umeå Centre for Global Health Research, Umeå International School of Public Health, and the Swedish Research School for Global Health. Our Unit is growing and is now larger than many of Umeå University's Departments.

We have every hope that this Annual Report will be read by many of our own staff and others too. Although extensive, it of course does not reflect all the positive movements within our Unit or in collaboration with others in Sweden and across the globe. To mention but a few: our open-access journal Global Health Action celebrated five years and reached an impact factor of 2.062 (page 11); after many years of solid collaboration with the Västerbotten County Council our partnership extended to include Register Centre North (page 32); and in 2013 the Stockholm Declaration for Global Health was launched in collaboration with the Swedish Society of Medicine and others (page 34-35).

Now we move on, collegially and with confidence, into 2014!

Anneli Ivarsson
Head of Unit

Klasse Sahlén
Deputy Head

Anna-Karin Hurtig
Deputy Head

Content

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Special events 2013

Unit days in Lycksele, April 2013

Unit day at Folkets Hus in Umeå, September 2013

Christmas celebration 2013




My doctoral journey and experience

The idea of pursuing a PhD education was first introduced to me during my masters' training at Linköping University when one professor asked if I had ever given this a thought. Before then, this wasn't something I considered in my early career, I slowly began to realize the importance of having a PhD especially since I had already made up my mind to pursue a research career. Following the completion of my master's degree, I saw a PhD position advertised and I decided to give it a try, luckily I got the position and in January 2010 I was on my way to Umeå to begin my PhD adventure. Taking on this position involved relocation within a very short time frame and this brought along several challenges in the beginning. The two words that can best describe my first year of PhD training are hectic and dramatic. Here I was in a new place, a one year old son, a day care on the other side of town and most importantly a PhD proposal to write and present within a couple of months. Even if it was a rough ride, I managed quite well I can say. It was a true adventure coupled with new sights I was so eager to explore and beautiful surroundings especially living close to Nydala lake, were I often took my evening walks and watched the beautiful sky as it transformed with the changing seasons.

As I gradually adjusted to my life in Umeå and to being a PhD student, the excitement of being a PhD student slowly started to fade away. The PhD that I once considered so special seemed very normal in this setting with more that 70% of all people I interact with on a day to day basis already having a PhD or on their way to getting one. It also started dawning on me that the journey to getting my own PhD wasn't going to be as easy as I had anticipated. I came face to face with the immense workload I had so conveniently chose for myself. It became obvious that I had to give up my staunch control of all details of my life; this was not easy at the beginning since I have spent most of my adult life trying to be in charge of my own progress. Here I was, hardly able to meet my personal deadlines and waiting for the ethical approval that seemed to take a lifetime. The lack of control and the constant delays began taking a toll on me and eventually I started viewing even small matters as major catastrophes often leaving me frustrated and hopeless. I am so thankful that all that is now behind me, looking back to those early days it feels good to know that things never remain the same.

Now as I embark on my forth year, I can clearly look back and with a sigh acknowledge that it has been a ride to remember. In many ways PhD life has defied all things I considered true about myself and education in general. At the beginning of this journey my naive mindset made me believe that each completed year during this training would live me more intelligent and knowledgeable. Unfortunately, I can honestly say that the only thing I consider myself more knowledgeable at, is my ability to recognize that I don't have and I don't need to have all answers concerning my research area let alone any other life issues. It feels like I have sharpened my sensitivity to my own weaknesses and increased skepticism not only about my own work but also for the works of others.

On the brighter side, this unit and this city have given me a whole new family, with lots of friends some of who will remain an integral part of my life even after my PhD training. The unit and the PhD student body have now and then organized interactive sessions for example listening to senior researchers share their own stories of transition from PhD student life to principal investigators and senior researchers has been a great source of encouragement. In many of their stories I could recognize my own story and find myself developing action plans on how to get where I really want to be in future. I am always moved by the sensitivity, dedication and support of my supervisors, most students have two supervisors and I get to have four, I have often joked about this fact that it seems I needed more support than most students and so I had to get a whole team. We have enjoyed a great relationship. My supervisors are committed and dedicated not just towards academic support but all the moral support required.

Even with all the great things I have shared about my life as a PhD student, I am still thrilled by the thought of completion. We haven't set a date for my defense yet but it feels that I am close to the end and some day in the near future I will have a PhD for sure. I am happy I chose this path and I still think Umeå University was a great choice for me for many reasons than I have shared here.

Fredinah Namatovu, Uganda
PhD student

PhD greens, PhD blues - Musings of an ex-Bramhachari

It may sound crazy but the fact remains I enjoy the self-inflicting pain of going back to the classroom every ten years or so. Maybe it's the shift from the uncertainty and expanse of the real world to the four-wall confines of a sheltered student life that beckons me every now and then. Which brought me to Umeå on my most recent sojourn. I am accused of being a 'methods' person –very systematic and organized in my life to the point of being obsessive about it – but I realize that the best happenings are those that are spontaneous. An unplanned family move out of India provided me a window away from my work to add yet a few more alphabets at the end of my name. Equipped with a doctorate in medicine and a double Masters', it still made sense to me do a second doctorate. A casual one-liner email with Nawi Ng followed by a flurry of emails quickly catapulted into a trip to Umeå to present my study plan. This was beautiful April, long midnight walks in bright daylight along the river banks – Umeå at its deceptive best. Come November and the 'pain of studying' nowhere matches the 'painfully cold' minus twenty Celsius without wind-chill.

To say the least, I have loved every moment that I spent in Umeå. For reasons unknown, some quirky trivia experiences get permanently etched in memory. Like many of us, I too have been spoilt by participating in meetings, workshops to which one gets invited. On the first day of my class I grandiosely open my laptop with its almost-dead battery and look around for a personalized power outlet – Surprise! I then look around for a host-provided notepad, pencil pen to write my notes in class – Surprise! Surprise!! Welcome to the frugal world of a student. On the other hand when your supervisor personally receives you at the airport the first time, another supervisor takes you out for dinner, it makes you feel wanted and important. I love this and many more such traditions at Umeå – where Birgitta introduces you to all faculty and students – where you are immediately initiated into one big family. At first, 'fika time' was an important ritual to get some *free* coffee and snacks. But I quickly strategized that 'fika time' was the best opportunity to meet with a busy person without the need for an appointment☺ – this is one Swedish tradition I will miss.

Prior to Umeå, I had been a researcher for more than two decades. I thought I would focus on some advance level courses of my choice. I did get exemption from some basic courses in epi and biostats but hard as I tried, could not wiggle out of two mandatory courses – one on Research Ethics and another on Information Retrieval. I took both courses with a 'know-it-all' attitude and came out significantly humbled. Without doubt, the learnings and skills that I acquired from these seemingly 'unsophisticated' courses have been of the utmost value in truly enriching me. I am not sure how students decide on which courses to take. I guess many would select a course that would fill a gap in knowledge or research skill they require to pursue their thesis. I chose my courses based on how exotic the course title sounded and then tailored my thesis to the skill that I gained from the course. In fact, one course that I took on mathematical modeling for control of infectious diseases had not even the remotest relevance to the topic of my thesis (which incidentally was something to do with aging) but I somehow convinced my supervisors. The first course I took was on Structural Equations Modeling – sounded quite exotic. I was fascinated by this statistical methodology and then wrote my first thesis paper based on it. Ten years ago while at Johns Hopkins, I had enrolled for a course in Bayesian Inference – I had dropped out as I was all at sea halfway through the course. I thought I would give it another shot now. Fortunately my grey cells had not decayed in the last decade and I enjoyed going into the fundamentals – functions, derivatives and integration. This course helped me to decide on what shape my last thesis paper would take. My strategy has been to entice the course instructor to provide statistical support for my thesis papers long after and beyond the coursework.

I often did and still wonder – who coined the term "sandwich" student? Was it an expression of his/her culinary sense? Nevertheless the concept is a godsend for mid-career professionals like me who want to pursue higher education without having to break their work trajectory – in a sense, the best of both worlds. As sandwich students, we do miss out on many of the vibrant academic and cultural interactions at Umeå. On the other hand we somehow manage to escape the roster for cleaning the department pantry, time our trips to Umeå for some cross-country skiing and rock and jazz music public festivals.

The first year of my PhD was spent in hard toil burning the proverbial midnight oil. It dawned upon me early enough that I must enjoy life while doing so. That's when I and my fellow 'sandwich' travelers (Tej Ram and Anand Krishnan) started coordinating our visits so that we could explore Scandinavia on the weekends of our stay. It also complemented our non-science life-skills perfectly. Tej is a great cook,

I was designated the kitchen knife (a tribute to my surgery skills) and Anand is a wonderful critique. I get fed wonderful Indian cuisine in Umeå while they get a free personal chauffeur when we explore the beautiful countryside. All else is secondary!

How can memoirs be complete without mention of that event we all dread right from the day we start our PhD? Believe me, you will enjoy (in hindsight, of course) the day of your public defense. Three generations of my full family (except my dog) descended into Umeå to represent the public face of the 'defense'. The month before the defense is a frustrating wait as all that needs to be done is done. And then YOU are the 'star' on that day. I was a bit hesitant when I started my defense but got into my element during my interaction with my opponent – I especially enjoyed expressing my disagreements with some of the issues he critiqued – after all I had been brainwashed by my supervisors that I was the 'expert' in the whole gathering having spent 3 years researching on the topic of my thesis.

And then it's all over. And suddenly the blues hit you. You are back to your daily work grind and long for the 'good old days' in Umeå. Ah! What would I give to relive my time in Umeå.

Siddhivinayak Hirve, India
Former PhD student

Thirty years' work in a nutshell

Epidemiology (from *epidemic* and Greek – *logi´a* '-learning', -'science', from *lo´gos* 'word'), scientific discipline addressing the prevalence, aetiology and outcome of diseases. Source: Swedish Nationalencyklopedin (national encyclopaedia).

This classical interpretation of epidemiology formed the basis for the department's work. This in turn led to the development of tools for public health initiatives, the prevailing focus of which is on how health trends may be influenced in a positive direction and how inequalities in health may be reduced.

Some 160 years ago, Dr. John Snow was concerned about the rapidly growing cholera epidemic in London. He suspected that the water supply might be the culprit behind the rampant infection rate. After he removed the handles on a water pump in the area that had the highest infection rate, the numbers of sick and dying declined dramatically. Dr. Snow is consequently recognized as the father of epidemiology.

Ill health frequently occurs as a result of our individual choices. Known risk factors include smoking, alcohol consumption and poor diet. From a broader perspective, there are many other causes of ill health that the individual alone is unable to influence. These include air pollution, occupational hazards, social and economic inequality, a shortage of health care resources, war, natural disasters and certain genetic predispositions.

Ill health is costly for every society. In addition to the fact that it limits human potential for contributing to the common good, medical care carries an enormous financial burden. For this reason alone, interest in improved public health is predictably on the rise across the globe.

The Department's beginnings

Public health efforts in Sweden and abroad were initiated within the field of medicine and were university-driven – not least by Umeå University. What is now the Epidemiology and Global Health Unit was originally established in mid-1986 as the 'Department of Epidemiology and Health Care Research' (*Epidemiologi och hälso- och sjukvårdsforskning, 'Epidemiologen')* led by Professor Stig Wall. Dr. Wall recruited other researchers representing a range of disciplines to the new Department. As a result, a number of epidemiologic studies, which went on to stimulate great interest, were initiated and conducted by the Department. One was a study of mortality and cancer incidence among workers from the Rönnskär smeltery in Northern Sweden. Another was the Norsjö community intervention project, which was unique at that time for involving an entire municipality in a public health intervention to minimise the risk of cardiovascular disease.

International cooperation

From its inception, what is now the department of Epidemiology and Global Health has conducted collaborative research projects in low and middle-income countries.

This was largely due to the fact that several members of the staff had previously worked in such countries. This collaborative activity has taken on increasing significance and is today one of the department's hallmarks.

The department's first annual report describes a wide array of collaborative projects in Ethiopia, Somalia, Tanzania, Zimbabwe, Botswana and Pakistan. Initially, these projects focused on creating a foundation for continued research by surveying these populations, since reliable demographic data are essential for any scientific research project to be conducted.

In 1986, the Butajira project was initiated in Ethiopia, and was the first to evolve into a so-called field laboratory. In that same year, the Kagera project in Tanzania began to survey the HIV infection rate in response to HIV/AIDS being discovered just a few years earlier. The initial results were alarming, with certain areas of the population found to have infection rates as high as 25 percent.

The Kagera project has continued in accordance with the Norsjö project's paradigm, where the objective is to reduce the spread of infection by practical interventions. This approach has achieved positive results over the years. In the 1980s, the Department also began to increase its cooperation with Somalia, Zimbabwe, Botswana and Zaire. It also began to lay plans for cooperation with Vietnam and Nicaragua.

Research alliances with the above-mentioned countries continued and were extended during the 1990s. In addition, new partnerships with Indonesia, Pakistan and Bangladesh were initiated. Regrettably, the cooperation with Somalia had to be suspended due to the effects of the civil war there. The results of the research in Somalia carried a message that was as clear as it was distressing – that infant mortality was increasing in line with the disintegration of the national political system and economy.

Education and research

After being in operation for only three months, the Department offered its first week-long course in epidemiology, which was held in Vietnam. The course, which dealt with research methodology, was the starting point for extensive training activities in both Sweden and the collaborating countries. The courses gave students from the cooperating countries an introduction to epidemiology as a discipline, and laid the foundation for the strong international attendance that followed. Plans for a master's degree program were also drawn up in the Department's first year.

The first students were accepted into the master's programme in 1991. The more the Department extended its activities, the more students it attracted from the cooperating countries. In the academic year 2010/2011, there were 98 students representing 27 countries.

In the autumn of 2011, parliament's decision to charge non-European students tuition fees came into effect. This was a very hard blow to the Unit because its activities over the years had been founded on a system of international student/researcher exchanges.

The effect of this radical change in policy is illustrated by the fact that the number of newly registered students dropped from 43

in the autumn of 2010 to only 18 in the autumn of 2011. In autumn 2012, 25 students started their studies, of which only nine were from low and middle-income countries. Generous scholarship funds will hopefully restore the number of international students to previous levels.

It is a strongly held opinion throughout the department that parliament should reconsider its decision regarding the tuition fees. A reversal of this decision would have a positive impact on research aimed at improving public health in low and middle-income countries.

In 2007, the original masters-equivalent "magister" programme was converted into a two-year master's programme. Beginning in 2011, students were offered both a one-year and a two-year programme in which the first year led to the original Swedish magister examination and the second year resulted in the new international-style master's degree. This degree programme has received very high ratings from the students. It has also been rated very positively by the Swedish Higher Education Authority (formerly the Swedish National Agency for Higher Education), which evaluates and accredits Swedish universities and university colleges. As of the summer of 2012, this body had accorded the Unit's master's degree in public health science its highest rating of "very high quality". This was the only Swedish master's programme within this discipline to receive the highest rating. The one-year master's-equivalent programme received the "high quality" rating.

By the end of academic year 2012, no fewer than 87 students had sat for the doctoral examination at the Unit. Almost half of them are from low and middle-income countries. The road from an idea to a final doctoral thesis is long, and it is therefore not surprising that the number of doctoral students has increased over time. From the outset up to the new millennium, 17 doctoral degrees were awarded. During the 2000s, the number increased by 46, and within the last three years no fewer than 24 doctoral students defended their thesis. This makes the department of Epidemiology and Global Health one of the most research-intensive units at Umeå University.

The widely differing backgrounds of the undergraduate and doctoral students, in terms of both vocation and culture, have produced a creative and dynamic research environment. Their studies and research at Umeå have made an appreciable contribution to improving public health in many countries.

The Västerbotten research cluster

The research program at Epidemiology and Global Health is in a state of continuous development, which is exemplified by the evolution of its name. It was originally known as *Epidemiologi och hälso- och sjukvårdsforskning (Department of Epidemiology and Health Care Research)*, then *Epidemiologi och folkhälsa (Department of Epidemiology and Public Health)* and now *Epidemiology and Global Health Unit*.

As a result of the Rönnskär study of smeltery workers, researchers began to investigate the possible connection between fertility and emissions in the work environment. A major study of youths in Umeå, launched in 1988, addressed factors that would predispose individuals to cardiovascular disease later in adulthood. Research projects in Västerbotten County, which were based on the Norsjö community intervention, have increased steadily in number. These are a testimony to the Department's close and extensive cooperation with the Västerbotten County Council.

Through continuous interaction between research and practice, this alliance has produced unique interventions, the ultimate aim of which is for the inhabitants of Västerbotten County to enjoy the highest standard of health in the world by 2020.

The experience gained from the *Västerbotten Intervention Programme, VIP*, including an invitation to a health check to all citizens at ages 40, 50 and 60has, generated international interest. In several places in the world, intervention programmes are carried out in order to improve the state of health of limited population groups. Epidemiology and Global Health provides major support for these programmes. VIP constitutes a basis for the Unit's second research theme.

A study to address the growing number of children with gluten intolerance was launched in the early 1990s. At the end of 2012 this research had resulted in three doctoral theses, with five doctoral researchers continuing the project both nationally and internationally.

Unemployment and health

There have been many other promising research projects over the years. One such project is aimed at investigating the effects of unemployment on health. Not surprisingly, the central conclusion was that unemployment is detrimental to health. Another finding was that old age pensioners and disability pensioners fare better than individuals who are forced into retirement before their time. Researchers in this field have also started examining the health impacts of changes in the labour market. Unlike in the past, employment has become increasingly short term, which causes unease in the work force and ultimately has an adverse effect on health.

No research imperialism

Research in the partner countries has at all times been conducted in congruence with their specific goals and has never been subjugated to the needs of Epidemiology and Global Health. The head of unit, Dr. Stig Wall, insisted on this policy, as a matter of pride and absolute adherence, throughout his tenure. This policy has resulted in a substantial proportion of the research in these countries being devoted to child and maternal health. Another research initiative was begun in response to the high prevalence of wife-battering in Nicaragua, which was so common that it constituted a serious public health concern. The resulting research program led to the enactment of a law in Nicaragua that made domestic violence a punishable offence. This research programme has now been taken up globally.

WHO Centre of Excellence

Since the new millennium, research at Epidemiology and Global Health has gained even greater momentum. In 2003, the Unit was appointed as a WHO collaborating centre in "Epidemiological Surveillance and Public Health Training", which is a much-valued accolade. This appointment was largely the culmination of the myriad cooperative projects undertaken across the globe and the training of so many doctoral researchers from low and middle-income countries.

Based on a model originally set up in Butajira, a network of field labs was gradually extended across the globe. In the early 2000s, these labs were brought under an umbrella organisation called *Indepth* (*The International Network for the Demographic Evaluation of Populations and Their Health*). There are now 31 such networks in 17 countries, a system that enables researchers to conduct cross country comparisons of health conditions.

Equality and health economics

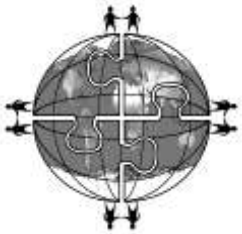
Current research in this area seeks to investigate prevailing social inequalities in health and how these may be addressed. A range of methods, based on a multidisciplinary approach, are applied in analysing social, cultural and gender-specific disparities in health.

Great interest has been taken in this research, which addresses the effect of both public and individual interventions. Health economics – the means by which available resources may be deployed in achieving

excellence in health and health care – has evolved into a prominent research area.

Five research themes

An important milestone was reached in 2007 with the generous, and long-term, grant awarded by the FAS – Swedish Council for Working Life and Social Research (recently renamed to Forte). It was this grant that enabled the establishment of the *Umeå Centre for Global Health Research*.



The vision for the centre was for two research areas to be given priority. The first of these was focused on how to promote public health in practice based on theoretical and methodological models. The second was devoted to the study of how different systems of care respond to new health threats. From these, five themes were defined for prioritising research efforts.

* How knowledge of different disease patterns may be transferred between affluent and poor nations and also between poor nations.

* How interventions to improve health may be designed in different societies.

* How primary health care may be strengthened for different groups in different parts of the world.

* How gender-specific differences in health may be reduced.

* How climate change affects health.

Communication

For research to have a positive effect on public health globally, its results must be presented both within and outside academia. It is essential that research results be accessible to decision-makers and the general public. Epidemiology and Global Health has devised a method for disseminating information that is wholly unique: Global Health Action.

Responsibility for this project rests with the former Head of the Unit, Stig Wall. Through Global Health Action, research results are posted directly after peer-review to the globalhealthaction.net site, where they are available free of charge to anyone in the world.

Funding – a constant struggle

For Epidemiology and Global Health, raising sufficient research funds is a constant struggle. Much of the unit's activity is financed by external sources, and a great deal of effort is devoted to drawing up grant applications. These efforts have so far been successful. The multiyear grant from Forte is one example. Another is a grant given by the Swedish Centre Party, which for 10 years, starting in 2007, provides 1 million SEK per annum for scholarships for students from low and middle-income countries. Another grant for the same purpose was given by the Erling Persson foundation in late 2012, again worth 10 million SEK.

The increase in the size of the unit's budget over time provides an indication of the increase in its activities. In the first few years, the total budget was around 6 million SEK. By 2012 this had increased to 67 million SEK.

Another indication of the growing scope of the unit's activities comes from the number of publications. The first year saw the publication of just over 20 articles. For some years after that, the number decreased, which was a result of changes in the organisation structure. From then on, the number has increased substantially and is now at around 100 publications per year.

The future holds great promise. New phenomena and issues that merit investigation crop up all the time, and our findings have the potential to lead to improvements in public health globally. Research within the five themes under which the Unit now organizes its extensive activities will certainly be further developed.

Institutional setting

Organisation

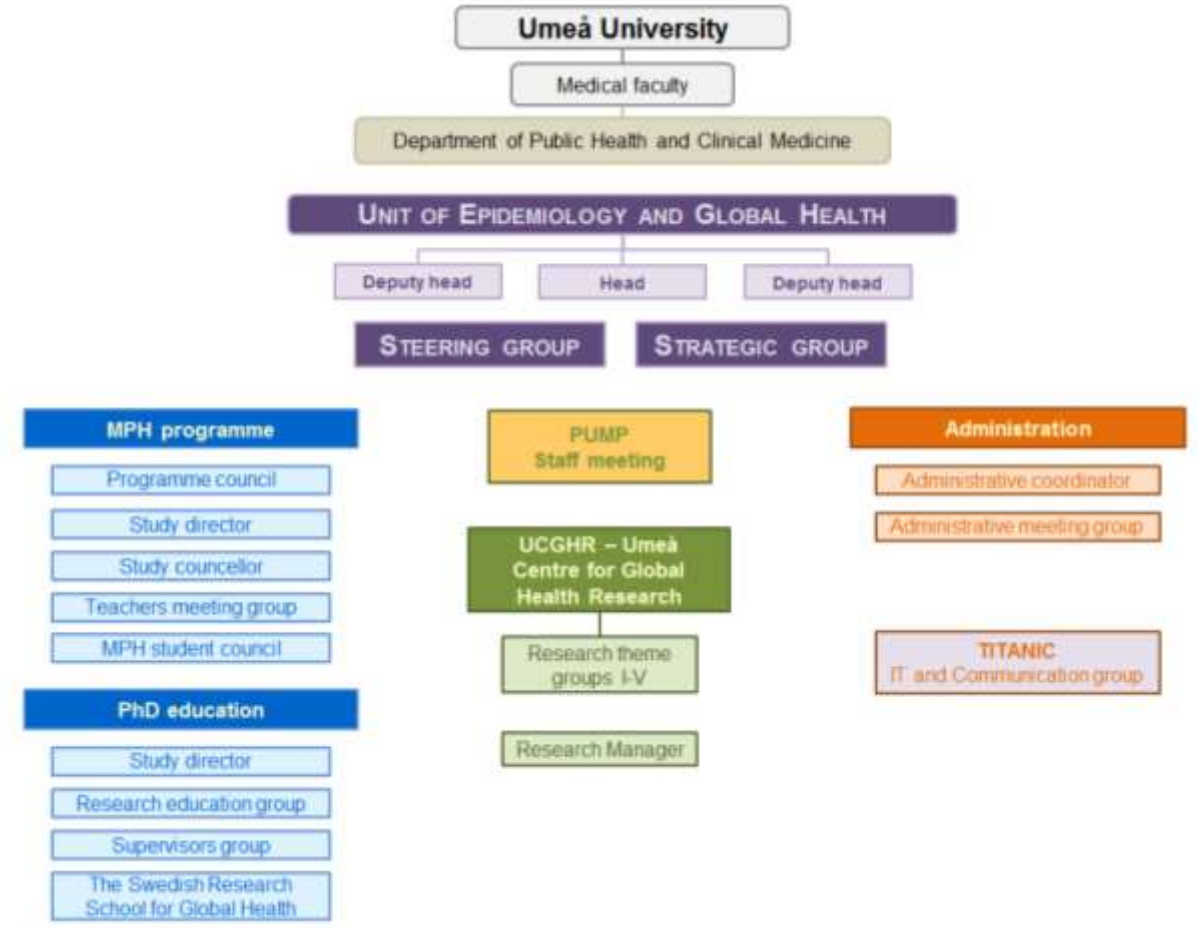


Figure 1. Organisation of the Unit within Umeå University.

The Unit of Epidemiology and Global Health (EpiGH) is a multidisciplinary research and teaching environment located within Umeå University's Medical Faculty, and its Department of Public Health and Clinical Medicine (Figure 1). The leadership group meets weekly, and many issues are discussed at the bi-weekly staff meeting (PUMP). Over the last year we formed the strategic forum, which has a key role within the unit (see below).

Our research is organised under the umbrella of Umeå Centre for Global Health Research (UCGHR) (page 24-29). We host Umeå International School of Public Health with Master Programmes in Public Health (MPH) (page 38-40), and the Swedish Research School for Global Health (page 41-42), the latter in partnership with Karolinska Institutet and Lund University.

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

Strategic forum

A group called the "Strategic forum" started to meet in August 2013 to discuss both long and short term issues of importance to the Unit. The discussions are focused on three core areas, i.e. research, education and communication/collaboration with society. Concrete suggestions are given to the Unit's leadership to consider. The forum meets three times per semester.

Participation in the group is based on core positions at the Unit. The members are:

Anneli Ivarsson	Head of Unit
Maria Nilsson	(Chair)
Yulia Blomstedt	Deputy head of Únit/Theme II (on maternal leave)
Kjerstin Dahlblom	Study director, MPH programme
Malin Eriksson	Deputy theme IV leader
Anna-Karin Hurtig	Deputy head of Unit/ Study Director PhD programme/ Theme III leader
John Kinsman	Deputy leader UCGHR
Kristina Lindvall	Theme II leader
Nawi Ng	Theme I leader, GHA editor
Joacim Rocklöv	Theme V leader
Klas-Göran Sahlén	Deputy head of Unit

Staff development

At present 72 research and administrative posts are attached to our Unit, not including sandwich doctoral students. Seventy % of the staff are women. Of the 66 PhD students 36 are women and 30 are men. The female/male ratio differs between groups, with a minority of women among professors and teachers/researchers whereas it is the contrary among administrators.

Our PhD students represent a mix of physicians, nurses, sociologists, economists, social workers, dentists, environmentalists, physiotherapists and nutritionists. The teachers/ researchers represent many disciplines such as epidemiology, environmental health, paediatrics, reproductive health, nutrition, medical sociology, statistics and health economics.

Budget

The total budget (Table 1) for the year 2013 amounted to 57.2 million SEK, 67% of which consisted of external research grants or grants for bilateral development research projects.

Teaching support from the university has been granted for our Master of Public Health (MPH) programme. A number of students on the MPH programme were awarded scholarships from The Erling-Persson foundation (7), Umeå University (2) and the Swedish Institute (6). Seven PhD students were awarded scholarships from the Swedish Centre Party donation.

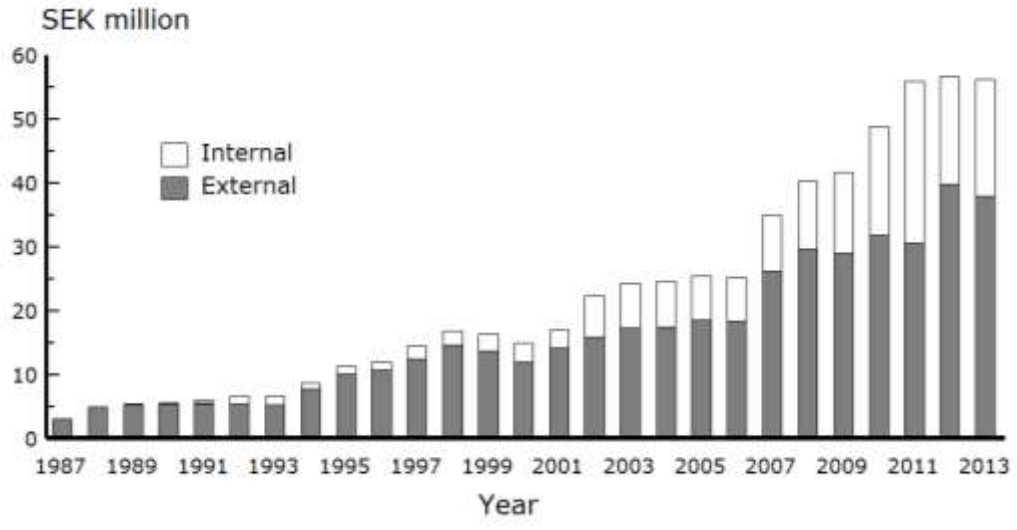


Figure 2. Development of annual budget 1987-2013.

Table 1. Revenues and costs during 2013.

Revenues (1000 SEK)	Undergraduate and master studies	Research and doctoral studies	Commissioned research	Total
Government grants	4 401	7 976	0	12 377
External contracts	1 570	0	3 088	4 658
External grants	0	33 497	0	33 497
Other revenues	680	5 987	12	6 679
Total	**6 651**	**47 460**	**3 100**	**57 211**
Costs (1000 SEK)				
Staff	4 807	23 424	2 874	31 105
Premises	30	625	5	660
Other operative expences	728	17 985	661	19 374
Depreciation	27	160	7	194
Overheads	443	4 312	109	4 864
Total	**6 035**	**46 506**	**3 656**	**56 197**

Table 2. External grant sources during 2013.

External grant sources	Incomings (Millions)
Forte – Swedish Research Council for Health, Working Life and Welfare	9,5
Swedish Research Council (VR)	9,2
SIDA	7,0
European Commission	4,3
Vinnvård	0,7
Swedish Institute for Communicable Disease Control	0,6
Umeå City Council	0,5
Karolinska Institutet	0,5
The Swedish Foundation for Humanities and Social Sciences	0,4
WHO	0,3
Stockholm University	0,2
Other Nordic organizations	0,1
Total	**33,4**

Progress

There are no measures that fully can evaluate our activities. However, a measurable outcome criterion is the number of publications (Figure 3). The ups and downs of the curve are a proxy for and a result of the process where research ideas, their gestational period, project planning, data collection and analysis ultimately, after fairly long induction periods, result in a measurable outcome such as a published paper.

Figure 4 shows the number of research students over time, one of the parameters for the budget model assessment system. During 2013, 66 PhD students were associated with our department, 16 of which were registered during the year. Figure 5 shows the number of doctoral dissertations over the 27 years that we have existed as an independent research environment.

As part of the budget model adopted by the Medical Faculty since 1996, three parameters are used to assess each of its departments/units: number of publications; number of doctoral theses; and amount of funding from external grants. Each department is given a budget, based partly on this assessment system. Over the years we have been increasingly competitive in this evaluation.

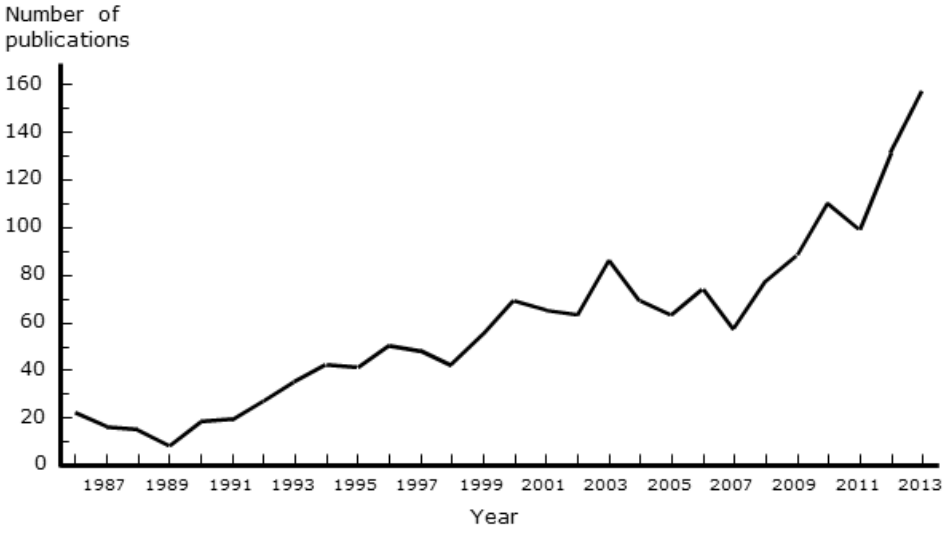


Figure 3. International publications in peer reviewed journals 1986-2013.

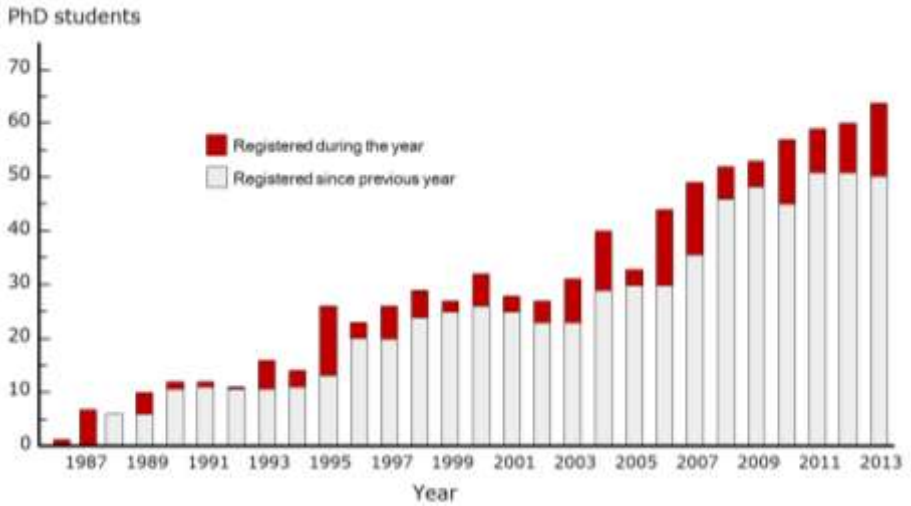


Figure 4. Research students at the Unit 1986-2013.

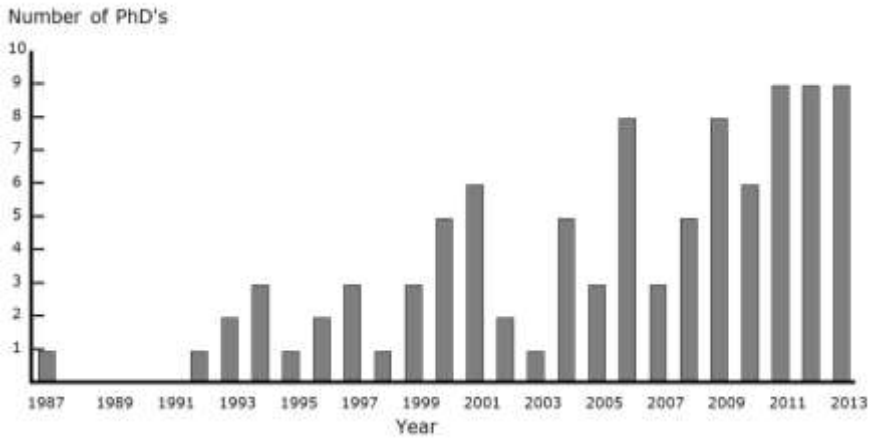


Figure 5. Doctoral dissertations at the Unit 1987-2013.

Consultancy and advisory functions

We have participated in public health processes by being members, advisors and consultants of international, national, regional and local bodies. Below we describe some examples of these functions.

We have contributed as advisors to the United Nations (UN) and its specialised agencies, particularly the World Health Organization (WHO), in many instances. This has included UCGHR's participation in the UN Summit on Civil Registration and Vital Statistics in Bangkok, and in the WHO Director-General's consultation on Global Health Estimates in Geneva. On-going work has included chairing the UN:sMaternal Mortality Estimates Inter-Agency Technical Advisory Group, and input to a WHO ad-hoc group on malaria evidence, more recently formalised as the Malaria Burden Estimation Evidence Review Group. Expert consultancies have been conducted to WHO Europe on infectious disease threats and climate change, and part of the experts in the European Centre for Disease Prevention and Control (ECDC) network on environmental determinants of infectious disease in Europe. We have advised WHO Europe on how to prevent and address Intimate Partner Violence (IPV) against migrant and ethnic minority women: the role of the health sector. We have participated in the steering committee of Health Space Asia as well as in the Scientific Advisory Group of the Southeast Asia Community Observatory (SEACO) We have been represented in the Expert Panel for Gender-Based Violence at the European Institute for Gender Equality (EIGE), a European Union agency which supports the EU and its Member States in their efforts to promote gender equality.

Researchers from our department are scientific public health advisers to national boards and institutes and referees for a number of scientific journals. We have regularly conducted consultancies for the National Board of Health and Social Welfare (Socialstyrelsen) during the year. Employees of Epidemiology and Global Health have also been members of the National Public Health Institute's scientific advisory board. We have been represented in the Advisory Board for the Swedish Government on Drug- and Tobacco policy.

We are key advisers behind the Västerbotten County Council Public Health Policy programme. On a regular basis we train local and regional political assemblies as well as patient organisations and public associations. We participate annually in more than one hundred public health education activities, both for basic public health training and dissemination of public health research. We regularly inform politicians from the municipalities and the county council of Västerbotten of public health issues in the county.

Since 1992, we have administered the Sida-allocated Minor Field Study (MFS) scholarships given to Swedish students within the health sector or health related fields. These scholarships make it possible for them to perform a small study during a two-month period in a low or middle income country.

Staff

Lena Björklund Olofsson. BSc. Study Counsellor. Research interests in young people's well-being. Involved in the project "Unga I Umeå", evaluating child and adolescent health. Mapping academic Global Health Centres working with chronic diseases

Yulia Blomstedt. MPH, PhD. Deputy head of the Unit. Deputy Principal Investigator for INTREC – an EU financed collaboration between partner universities and organizations in Africa, Asia, USA and Europe, designed to build capacity for research on social determinants of health in low - and middle-income countries. Leader for Theme II "Life-course perspective on health interventions" within Umeå Centre for Global Health Research. Also involved in the collaborative programme "Ageing and Living Conditions" at Umeå University. Research on

health interventions, self-reported health, health care management.

Peter Byass. Professor of Global Health and Director of the Umeå Centre for Global Health Research. Works extensively on health in Southern countries, particularly on issues of measuring health and disease. This involves close collaboration with the Indepth Network, where he chairs the Scientific Advisory Committee, and many of its population surveillance site members. Much of his research is concerned with verbal autopsy and cause of death methods. He is Deputy Editor of Global Health Action and also holds honorary Professorships at the University of Aberdeen, Scotland and Witwatersrand University, South Africa.

Anna-Britt Coe. Her research centers on activism, gender and health in Latin America, specifically Peru and Ecuador. She examines adult advocacy in favor of reproductive rights, youth activism around sexual health, and different generations of feminism addressing gender hierarchies. Also involved in a research project that examines how young activists in Sweden understand adolescent health issues and what actions they propose to address this (Ung I Botnia).

Mark Collinson. Senior researcher the MRC/ Wits Rural Public Health and Health Transitions Research Unit, School of Public Health, Faculty of Health Sciences at the University of the Witwatersrand and visiting researcher at the Centre for Global Health Research, Umeå University, Sweden. He has led the INDEPTH Network Working Group in Migration, Urbanisation and Health for ten years.

Kjerstin Dahlblom. MPH, PhD. Deputy Director of Studies for Umeå International Master Program in Public Health (UISPH). Administrator of scholarships for Minor Field Studies (MFS). Teaches qualitative methodology and coordinates the thesis course in the MPH program. Thesis project was on sibling caretakers in León, Nicaragua. Research fields of interest: children's rights, children's participation in research, qualitative methods.

Lucia D'Ambruoso. PhD. Post-doctoral research fellow. Research interests: maternal health in developing countries, care in obstetric emergencies, critical incident audit, verbal autopsy/social autopsy, community participation, the social determinants of health, social theory, qualitative methods, interdisciplinarity and research ethics. Involved in research in South Africa developing verbal autopsy for routine application.

Kerstin Edin. PhD, MPH, RN midwife, senior lecturer at the department of Nursing. Main research interest on the topic of intimate partner violence with special focus on gender, sexuality and on the period of pregnancy. Administrator of scholarships for Minor Field Studies (MFS). Involved as a supervisor in PhD projects at Umeå Centre for Gender Studies and at the unit of Epidemiology & Global Health.

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

Kristina Edvardsson. Registered nurse, Master in Nursing. Doctoral studies on children´s health within the Västerbotten County Council Salut programme. New post from July 2013.

Andreas Ekholm. Economic coordinator. Responsible for economic planning, budgeting and accounting.

Malin Eriksson. Social worker, with a MA in social work, and a PhD in Public Health. Teaching social theory and qualitative methodology in the Master of Public Health programme, and supervises students on Master and PhD levels. Her research mainly concerns social determinants of health and in particular social capital and its implications for health promotion. Currently involved in a project funded by the EU refugee fund that evaluates interventions for unaccompanied refugee youth in Umeå municipality. She is also deputy theme leader for theme IV "Gender, Social Inequality, and Health" within Umeå Centre for Global Health Research.

Eva Eurenius. PhD, project assistant within the Salut Child-Health Intervention Programme in Västerbotten County. Studies within the Salut Programme focus on the pregnant woman's and her partner's health, lifestyle and lifesituation with follow-ups of the infants', adolescents', and parents' ditto after childbirth.

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

Isabel Goicolea. MD, MSc, PhD. Researcher. Her research interests are in gender relations, men's violence against women, young people's health and sexual and reproductive rights. Currently involved in research on health care re-

sponse to intimate partner violence against women in Spain.

Lena Granlund. MD, General Practitioner. PhD-studies on vitamin D deficiency and health in northern Sweden, an epidemiological study of Immigrant and native Swedish populations at latitude 63-69˚N. The study is including the project VIDI (Vitamin D deficiency in Immigrants), an epidemiological study of vitamin D deficiency in immigrants born in the Middle East or Africa but living in Umeå. Also affiliated to the Department of Family Medicine.

Jonas Hansson. Fil. Mag. in Education. PhD student at Epidemiology and Global Health at Umeå University. His current research project and doctoral studies is ”Psychosocial job characteristics, coping and mental health among Swedish police officers in relation to deportation of unaccompanied children”. Hansson was formerly a police officer, field training officer and instructor at the Basic Training Programme for Police Officers at Umeå University.

Ulrika Harju. Administrates the research courses Research Methodology and Philosophy, Reserch Methodology With Biostatistics and the course in Epidemiology and Biostatistics within the biomedicine programme. Reviewer for the Unit in the Personnel Administrative Self-Service system at Umeå University. Also administrates the Minor Field Studies applications.

Jing Helmersson. PhD in Atomic Physics and Laser Spectroscopy & M.S. in Public Health. Research scientist at”Climate change and global health" at Umeå Centre for Global Health Research. Her current research project is Mathematical Modeling of Dengue, a vector-borne infectious disease. Dr. Helmersson was formerly a professor in Physics from California State University Long Beach, USA.

Alison Hernandez. MPH. PhD student. Doctoral studies on Health Service Delivery in Rural Guatemala: Analysis of Strategies to Support the Performance of Auxiliary Nurses.

Yien Ling Hii. MPH, PhD in Epidemiology and Public Health. Research interests: Forecasting model and early warning system of climate-sensitive infectious diseases including dengue fever and hand-foot-and-mouth disease. Currently working on a multinational dengue early warning system, a novel platform for predicting local and regional dengue epidemics in Southeast Asia based on mixed methodologies.

Anna Holmström. From April 2011 – April 2013 Anna Holmström was 50% coordinator of the Umeå SIMSAM network, and 50% coordinator of the national SIMSAM network..

Anna-Karin Hurtig. MD, DrPhD, DTM&H, MSc. Professor in public health. Director of research studies and coordinator of the Swedish Research School for Global Health. Theme leader for "Strengthening primary health care- the roles of rights, ethics and economic analyses" within Umeå Center for Global Health Research. Main areas of interest: international health systems and policy research, infectious disease policy, primary health care in low income countries.

Elisabet Höög. MA in work- and organizational psychology. Doctoral studies on Implementation challenges in health and social care organizations.

Anneli Ivarsson. Head of Unit. MD with specialist training in Pediatrics. PhD in Paediatrics. Associate Professor in Epidemiology and Public Health Sciences. Principal investigator of the Umeå SIMSAM Lab focusing on multidisciplinary register-based research connecting childhood with life-long health and welfare. Extensive research on coeliac disease, and increasingly involved in child health research in Sweden and internationally. Editorial Board Member of Global Health Action. Attached to the Strategic Development Office, Unit of Public Health, at the Västerbotten Council.

Urban Janlert. MD, Professor of Public Health, specialist in Social Medicine. Research in social epidemiology (unemployment, social deprivation). Also attached to the Research and Developmental Unit of the County Council.

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

Karin Johansson. Administrative coordinator. Responsible for departmental and staff administration.

Kathleen Kahn. PhD, MPH, MBBCh. Guest Researcher. Collaborative work in child and adolescent health, community-based cause of death assessment, and adult health and aging through INDEPTH multi-site work. Active in forging research and training links with Wits University, South Africa. Also based in the MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt), School of Public Health, University of the Wit-watersrand, South Africa.

Therese Kardakis. Doctoral student withing the Vinnvård project. Research on implementation of national guidelines.

John Kinsman. Associate Professor in Global Health, and Deputy Director of the Umeå Centre for Global Health Research. Also serves as Asso-

ciate Editor for BMC Public Health, and as Vice Chair of the INDEPTH network's Social Science Research Working Group. Other ongoing research and collaborative work: Deputy Principal Investigator of the EU-funded 'INTREC' project, focusing on capacity building for research into social determinants of health in Africa and Asia; intervention development for overweight and obese adolescent girls in rural South Africa; health systems in Zambia and the Tigray Region of Ethiopia; and developing qualitative research on the impact of climate change on health in Africa.

Tord Kjellström. Senior Guest Professor of global health, specialist in environmental and occupational epidemiology. Research on the health impact of climate factors and climate change on working people and the consequences for the epidemiological transition and health equity.

Barbro Larsson. Working with course administration in the medical and biomedicine programme. Reviewer for the Unit in the Personnel Administrative Self-Service at Umeå University. Also involved in Minor Field Studies. She retired from her post in July 2013.

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

Marie Lindkvist. PhD in Statistics, coordinator statistical teaching, senior lecturer in statistics, statistical consultant.

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

Veronika Lodwika. Programme Administrator of the Public Health Programme. Working with student support and course administration.

Wolfgang Lohr. Health Data Manager, involved in the DengueTools project.

Rebekah Lucas. Post doctoral fellow. Her research is based on human-based integrative physiology in both healthy and diseased states under a range of environmental stressors, with a focus on the health impacts of climate factors and climate change on working people.

Curt Löfgren. Senior lecturer in Economics. Study director of the Master of Public Health Programme. Doctoral studies in health economics, particularly issues on how to protect the poor in third world countries from catastrophic health expenditure.

Göran Lönnberg. Statistician, research assistant. Involved in the projects: "Västerbotten Intervention Program" (VIP), "Sweden Stroke Prevention Study" (SSPS), "Ageing and Living Conditions" (ALC).

Sandra Modh. Postdoctoral Fellow with current research focus on community perceptions of weather and climate, health and gender in eastern Indonesia, and local adaptations to climate change. Member of research themes V, Climate change and Health, and IV, Gender and Health. Holds a D.Phil. in Social Anthropology and an M.A. in Archaeology and Anthropology from the University of Oxford.

Lena Mustonen. Administrator within the EU-supported projects DengueTools and INTREC. Responsible for the Unit's web sites, the publication database (DIVA), staff catalogue, and the research database.

Anna Myléus. MD, PhD. Post doc within the Umeå Centre for Global Health Research, Theme 1- Epidemiological transitions, and deputy leader of Theme 1. Ongoing research in different epidemiological fields: social determinants of health among elderly in low- middle income countries; social determinants of health, prevention and health-related quality of life in children with celiac disease; and health development in Tigray, Ethiopia. Teacher in qualitative research methods and epidemiology.

Fredinah Namatovu. Masters in Health and Society, Doctoral studies on exploring the environmental exposures to childhood celiac disease: A focus on the role of medical and socioeconomic factors in Sweden.

Nawi Ng. MD, MPH, PhD. Associate Professor/Senior lecturer in Epidemiology and Global Health. Research focus on health and well-being among older people in Sweden and in low- and middle-income countries. Also work on the epidemiology of chronic diseases and their risk factors in low and middle-income countries and participate in the interdisciplinary research Västerbotten Intervention Program. Member of Centre for Global Health Research steering group, theme leader in the "Epidemiological Transition" research at the centre and managing editor of Global Health Action open-access journal.

Maria Nilsson. PhD. Research areas: tobacco prevention and policy, climate change and health. Also attached to the Unit of research, education, development and public health at Västerbotten County Council.

Faustine Nkulu Kalengayi. MD, MPH. Doctoral student attached to the center for global health research. Research studies on the chal-

lenges and opportunities for HIV/AIDS/TB care and prevention among immigrants from countries in sub-Saharan Africa.

Margareta Norberg. MD, PhD. Has focus on prevention and public health with research on risk markers for CVD and type 2 diabetes. PI for VIPVIZA - Visualization of asymptomatic atherosclerotic disease for optimum cardiovascular prevention. Also active in research on D-vitamin from a public health. Affiliated to the multidisciplinary research programme Ageing and Living Conditions, ALC, Umeå University.

Annika Nordström. PhD. Senior lecturer in public health. Studies on hazardous alcohol use related to health, social factors and gender. Attached to the Unit of research, education, development and public health at Västerbotten County Council.

Katrina Nordyke. R.N., MPH, PhD in Epidemiology and Global Health. Doctoral studies on: "Mass screening for celiac disease. A public health intervention from the perspectives of the participants and society."

Fredrik Norström. PhD in Epidemiology and Public Health. PhLic in Mathematical Statistics. Statistical consultant and lecturer in Biostatistics. Course responsible for "Epidemiologi och biostatistik" which is part of the biomedicine programme. Currently post-doctor at Epidemiology and Public Health. Post-doctoral research is related to use and development of epidemiologic methods within the field of public health with an emphasis on labour market and ill-health. Research interests also includes celiac disease and health economics.

Lennarth Nyström. Associate professor in epidemiology, Senior lecturer in biostatistics. Research is focused on the evaluation of the efficacy and effectiveness of mammography screening in Sweden, cost-effectiveness of treatment of hypertension in Västerbotten and evaluation of public health interventions. Other research includes epidemiological studies of diabetes in Sweden and hip fractures in Västerbotten. Also involved in studies of reproductive health and violence against women, children in Tanzania and risk factors for type 2 diabetes in Indonesia.

Monica Nyström. Organizational behavior and management in health service organizations, with a special interest in leadership, organizational development, quality improvement and organizational innovation and learning processes. Currently leading five research projects (VINNVÅRD, VINNOVA, SFO-V) focusing on building organizational structures and processes that enhances sustainable learning, innovation, development and improvement in complex organizational systems. Also leading the project Strategies for improving the care of older people Works part time with her main employment at Medical Management Centre at Karolinska Institutet.

Carolina Näslund. Study councelor at the Master Programme in Public Health. Study administrator for the courses given during the 1st year of the programme. Also responsible for the administration in Selma, the central database which handles educational formalities regarding courses, programmes and enrolment information.

Solveig Petersen. PhD in Pediatrics. Research fellow with a joint position at Child and Adolescent Psychiatry, and Epidemiology and Public Health, Umeå University. Ongoing research in the fields of epidemiology and prevention of mental ill-health, recurrent pain and overweight in children in Sweden and internationally. Another research focus is health-related quality of life in clinical and non-clinical child populations. Principal investigator of the Study of Health in school-children from Umeå (the SISU project), which focus health and health development over the school-years, including its impact and predictors.

Mikkel Quam. Project assistant within the DengueTools research project.

Raman Preet. BDS, MSc DPH, MPH. Research coordinator at Umeå Centre for Global Health Research. Responsible for daily execution and management of two European Union funded FP7 framework projects DengueTools and INTREC. Act as primary contact between the two consortiums and the European Commission office. Lecture on global health and global oral health to medical and public health students of Umeå University. Research interests: oral health integration in global health; gender and global health; establishing scientific exchange platforms in developing countries.

Anni-Maria Pulkki-Brännström. Health economist with a special interest in empowerment, equity and the economics of household health behaviour. As member of Theme 3, Primary Health Care, working on adapting the economics of technological diffusion perspective to maternal and child health interventions in particular household adoption of preventive and care seeking behaviours. Also associated with UCL Institute of Global Health, where her role on the LBWSAT trial in Nepal covers intervention cost effectiveness, maternal empowerment, and household expenditure.

Karl-Erik Renhorn. Provides information, advice and support in relation to external funding to the researchers at Umeå Centre for Global

Health Research, and researchers at the Dept of Public Health and Clinical Medicine. Together with administrative resources at the centre, part of a team that supports the production of research applications to major funders like the European Commission, National Institutes of Health in the United States, major private grant sources, and national research funding agencies. Also assists researchers in the management of research projects. Another important part of my work is "research intelligence", finding advance information and contacts relating to research funding. Also works at the Grants Office of Umeå University, primarily supporting researchers at the Faculty of Medicine.

Joacim Rocklöv. Associate professor in epidemiology with undergraduate training in mathematics and statistics. At the present scientific leader for a research group within the Umeå Centre for Global Health Research, Umeå University, researching the relationship between climate change and health. Research focuses on statistical and mathematical methods applied to epidemiology, in particular, methods relating weather, climate and climate change to health, and forecasts of climate sensitive diseases. Also teaching research methods in the field of climate and health, as well as epidemiology and biostatistics for both undergraduate students and PhD students.

Anna Rosén. MD, PhD. Resident physician in Clinical genetics. Studies on mass screening for celiac disease utilizing a combination of qualitative, epidemiological and genetic research methods. Also attached to the department of Medical and Clinical genetics. Lecturer in Qualitative research methodology, Clinical genetics and Genetic epidemiology.

Klas-Göran Sahlén. R.N, PhD. Deputy head of the Unit. Studies in the area of aging, prevention and health economics. Lecturer in two subjects; health economics, and qualitative methods. Also senior lecturer at the Department of Nursing.

Mariano Salazar. Md, Msc, Ph.D. Dr. Salazar has conducted research on sexual and reproductive health, intimate partner violence and masculinity in the Nicaragua setting. Currently, he is a member of the Umeå Centre for Global Health Research Theme IV, a research group that focuses on gender, social inequality and health. Dr. Salazar is also a researcher at the Centre for Demography and Health Research (CIDS) at the Nicaraguan National Autonomous University, León.

Miguel San Sebastian. Medical Doctor with a MSc degree in control of infectious diseases and a Ph.D. degree in environmental epidemiology from the London School of Hygiene and Tropical Medicine. He practiced public health during 12 years among indigenous communities of the Amazon basin of Ecuador. Currently working as an Associate Professor at the Umeå International School of Public Health, Sweden teaching different courses (public health, social epidemiology) at Master and PhD. level. Interested on how to combine Goethe´s approach to research, Gandhi´s values and systems thinking to the improvement of health systems performance in isolated areas of the world.

Ailiana Santosa. PhD student. Physician by training and MPH-graduate. Working in the Umeå Centre for Global Health Research on epidemiological transition in Sweden and low- and middle income countries. Research focuses on the epidemiological transition in Sweden. Also associated with the Graduate School for Population Dynamic and Public Policy in Umeå University.

Rainer Sauerborn. MD,PhD. Guest Professor of Climate Change and Global Health. Is Director of department, Institute of Public Health, University of Heidelberg, Germany.

Julia Schröders. MPH. Research assistant within the "Evidence for Policy and Implementation project" (EPI-4) which focuses on the reduction of inequities in the achievement of health-related MDGs in China, India, Indonesia and Vietnam. Project assistant in the "EPI-4+: New health challenges in Indonesia" project focusing on chronic non-communicable diseases (NCDs). Editorial assistant for the Global Health Action journal.

Barbara Schumann. MPH, PhD. Epidemiologist with a background in psychology and public health. She is deputy leader of the theme "Climate change and health" within the Umeå Centre for Global Health Research. Research interests: Climate change and health in Sweden and other countries; analysis of longterm records of climate, mortality and morbidity.

Berndt Stenberg. 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 professor in biostatistics. Statistical consultant in several epidemiological and medical research projects. Giving courses in biostatistics on various levels.

Hans Stenlund. Post-doc in the DengueTools project. Also active in teaching and consulting.

Jennifer Stewart Williams. BComm(Econ), Mcomm(Econ), GradDipClinEpi, PhD. Epidemiologist with a background in economics and

health services research. Conjoint academic, Research Centre for Gender, Health and Ageing, University of Newcastle, Australia; Visiting Research Fellow, Health Statistics and Health Information Systems, World Health Organization, Genève, Switzerland; Research Assistant in the Epidemiological Research Theme at the Centre, and section editor for the Global Health Action open-access journal. Research interests: ageing, non-communicable chronic diseases, health care utilisation, health inequalities, and the patterning of the social determinants of health and health change with advancing age.

Lotta Strömsten. PhD. Postdoctoral researcher at the Unit within Theme II - A life-course perspective on health interventions. These interventions are aimed at e.g. counteracting risk factors for cardiovascular disease and other adverse health effects due to, for example, obesity, tobacco- and alcohol use. Her research work within UCGHR is focused at developing the methodology for how these different types of health interventions can be evaluated.

Linda Sundberg. Doctoral student. Her research focuses on factors influencing policy formulation and evidence uptake in the Swedish health system. By exploring national implementation strategies and their outcome the research aims to illustrate factors that inhibit or enables quality improvements in health care.

Johanna Sundqvist. Social worker, doctoral student. Involved in a research project, studying how different Swedish actors work and collaborate in the process of unaccompanied children's repatriation. The main focus is on social workers.

Stephen Tollman. (MA MPH MMed PhD), Guest Professor, directs the Medical Research Council/Wits University Rural Public Health and Health Transitions Research Unit (Agincourt) in rural northeast South Africa. In the context of a rapidly transitioning society, his research is on burden of chronic diseases, strengthening of chronic primary health care systems, and population dynamics. Founding Board chair of the INDEPTH Network (2002-2006). Leads Network efforts in Adult Health and Aging.

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

Susanne Walther. Working with budget and departmental administration. Also involved in the project on celiac disease.

Masoud Vaezghasemi. MPH, Master in food and nutrition, PhD student. Doctoral studies on: The emergence of dual burden of malnutrition in Indonesia: The role of gender and social capital. Also a PhD student at the Umeå Centre for Gender Studies.

Johannah Wegerdt. Johannah Wegerdt is Project Manager for two European Union funded projects. Her duties include supporting the coordinators with the day-to-day management of the projects and ensures communication within the consortia (leave of absence).

Lars Weinehall. Professor of Epidemiology and Family Medicine. Head of Department of Public Health and Clinical Medicine, Umeå University, Sweden. Family physician with many years of clinical experience in primary care and family medicine. Has during nearly 25 years been coordinating the Västerbotten Intervention Program (VIP). Since 2003-2013 member of Scientific Boards within the National Public Health Institute. Was 2008-2011 chairing the development of the Swedish National Guidelines for Evidence Based Lifestyle Interventions in Clinical Practice.

Anna Westerlund. Project assistant within the Salut project.

Annelies Wilder-Smith. Guest professor. Principal investigator within the EU-supported project ”Innovative tools and strategies for surveillance and control of dengue”, StopDengue.

Birgitta Åström. Administrative coordinator for the Swedish Research School for Global Health and the postgraduate education. Working with the PhD-student support and the PhD scholarships. Administrates courses at PhD level. Involved in the collaborative work with Indonesia.

Ann Öhman. Professor in gender studies with special reference to health profession research, violence against women and constructions of masculinity. Theme manager of the research theme Gender and Global Health within Umeå Centre for Global Health Research. Research manager for projects on 'Health professions, leadership and work organisation'; and on 'New forms of Health promoting masculinities in Latin America'. She is Professor and Scientific Leader at Umeå Centre for Gender Studies, Umeå University.

Research

Umeå Centre for Global Health Research

Our research portfolio at the Unit of Epidemiology and Global Health is wide ranging – in scope, methods and geogra-phy – and is organi-sed under the umbrella of the Umeå Centre for Global Health Research, a centre of excellence which was established in 2007 by FAS (the Swedish Council for Working Life and Social Research), now renamed Forte, (the Swedish Research Council for Health, Working Life and Welfare). Of course many other funders including VR (the Swedish Research Council), EU (European Union), Sida (the Swedish International Develop-ment Cooperation Agency) and others are heavily involved in our research programmes, together with our international partners.

We arrange our research interests into five themes for the sake of convenience – although there are many cross-theme interactions too, which the Centre always encourages. The five themes outline their programmes in more detail separately, but their main areas of work are:

Theme I: Epidemiological transitions
Theme II: Life-course perspectives on health interventions
Theme III Strengthening primary health care: the roles of rights, ethics and economic analyses
Theme IV: Gender and health
Theme V: Climate change and global health

The Centre as a whole has a strong emphasis on moving towards global health equity through research and capacity building. We do this by engaging with relevant issues locally – within Sweden and Scandinavia – as well as with other parts of the world. Through our various collaborations, we have contributed to many successfull PhD theses, originating from a wide range of countries. We also very much see "global health" as inclusive of what happens in our own backyard.

Since the Centre's founding in 2007, under the initial leadership of Prof. Stig Wall, we have published over 700 scientific articles, and the numbers continue to increase. Of course it's not just a question of quantity – we are also proud to have published some of our work in the world's leading journals. Richard Horton, editor of *The Lancet*, recently wrote "*The University of Umeå has carved out an utterly distinctive position as an academic centre in global health.*" (Horton R. Offline: The Stockholm Syndrome. Lancet 2013;381:1260).

Global collaborations are a critical component of our research. We collaborate with a large number of universities and other institutions around the world, many in low- and middle-income countries. In 2012, the World Health Organization appointed us to be the WHO Collaborating Centre for Verbal Autopsy, a specialist technical area in which we have developed a world-leading reputation. We also host the editorial function of Global Health Action, an open-access on-line journal which has published articles on a huge variety of global health topics.

Theme I: Epidemiological Transitions

Research in this theme aims to improve understanding on epidemiological and health transitions, using high quality register data in high-income countries, as well as population-based data from health and demographic surveillance system (HDSS) sites in low- and middle-income countries. The research work within Theme I has been based on long-term collaborations with researchers in African and Asian HDSSs within the INDEPTH Network, as well as with international organizations such as the World Health Organization (WHO), and with Swedish researchers within and outside Umeå University.

Research areas at a glance

Mortality and verbal autopsy: Researchers in Theme I (Peter Byass, Edward Fottrell, Lucia D'Ambruoso) have taken the leading role in the development of InterVA (www.InterVA.net), a computer model for interpreting verbal autopsy interviews in reliable and consistent manner. This work led to WHO establishing their Collaborating Centre for Verbal Autopsy in our Unit. Sida research funding was secured during 2012-2013 to conduct a project on mortality in South Africa (collaboration with Stephen Tollman, Mark Collinson).

Ageing: The collaboration with the WHO and INDEPTH Network on the Study on Adult Health and Ageing (SAGE) has promoted understanding on the disability, quality of life and well-being among older adults in eight countries in Africa and Asia (Nawi Ng, Peter Byass, Stig Wall, Stephen Tollman). The WHO SAGE population-based dataset has also been used (Nawi Ng, Masoud Vaezghasemi, Julia Schröders, Ailiana Santosa, Anna Myleus). Ageing research has also been conducted using the rich longitudinal Linnaeus database for the older Swedish population (Nawi Ng, Ailiana Santosa, Stig Wall), which combines population register and health survey data for the period 1990-2006. A research grant from the Swedish Research Council supported the research on understanding the impacts of income inequality and mobility on health in Sweden (Nawi Ng with researchers from the Ageing and Living Conditions programme).

Intersection between communicable diseases and non-communicable diseases (NCDs): During 2013, researchers in this theme received several partner driven corporation grants from SIDA to conduct projects on (i) equity and MDG 4,5, 6 in Indonesia (EPI4 project); and (ii) equity and NCDs in Indonesia (EPI4+ project) (Nawi Ng, Ari Probandari, Masoud Vaezghasemi, Julia Schröders). SIDA support was also obtained to conduct workshops to stimulate discussion on multisectoral collaboration in NCD prevention and control in India (Nawi Ng in collaboration with Miguel San Sebastian in Theme III).

Climate change and health: We collaborate with Theme V to supervise a PhD student on dengue early warning systems. We also participated in another grant obtained by Theme V to do research on climate change and health in Indonesia.

PhD and MPH training at a glance

Three PhD students successfully defended their theses: Hii Yien Ling on dengue warning system, Anand Krishnan on mortality inequality among girl child in India, and Siddhivinayak Hirve on self-rated health among older people.

Six PhD students have actively been working on their projects on double burden of malnutrition in Indonesia (Masoud Vaezghasemi), chronic NCD risk factor in Indonesia (Cahya Utami Puji Lestari), mortality inequality in Sweden (Ailiana Santosa), indoor air pollution in Kenya (Kanyiva Muindi), and NCD risk factors among urban slum population in Vietnam (Vu Duy Kien). We also co-supervise students working on breast cancer in India (Nitin Gangane – theme III), social capital in Sweden and Ukraine (Kateryna Karhina – theme IV), and outdoor air pollution in Kenya (Thaddaeus Egondi – theme V).

Theme I researchers mentored seven MPH students in their master theses works using the WHO SAGE dataset. Five students have defended their theses successfully in 2013.

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Theme II: Life-course perspective on health interventions

The research in this theme focuses on the design, implementation and evaluation of health interventions that target different stages of the life course, from the unborn child to old age, taking into account social contexts and gender aspects, in both advantaged and disadvantaged communities. Results to date illustrate the potential of the life-course approach for building evidence on associations between lifestyle and other risk factors at early ages and health outcomes in later life. This approach also enables studies of the contribution of

different social, cultural and environmental factors to health and disease. The theme has developed a methodological interest in how to best design, implement and evaluate complex interventions taking into account the specific complexity of community and population-based interventions as well as the complexity of the context in which these interventions are implemented. More than 20 interventions are being carried out under the umbrella of the theme. Further information is given on some of them below.

We take benefit of the Child Health Intervention Programme in Västerbotten (Salut), targeting parents-to-be and children 0-18 years of age. Salut is a cross-sector and multidisciplinary child health intervention programme developed to support the provision of health promotion activities in health care and school settings. It builds on experience from the Västerbotten Intervention Programme (VIP) for adults and the Tobacco Free Duo Programme for adolescents. Tobacco-free duo is a long-term programme aimed at reducing the use of tobacco amongst children and young people. By giving them a tobacco-free environment while growing up, and support in remaining tobacco free the programme wishes to promote health and reduce tobacco related illness. Through these experiences we contribute to the development of the NTSHEMBO (in Swedish "HOPE") project in Agincourt, South Africa. It is a randomized intervention to promote adolescent and infant health and wellbeing, and to reduce intergenerational risk of metabolic disease in transitioning societies.

Within VIP we have now completed 24 consecutive annual examinations of most Västerbotten inhabitants aged 40, 50 and 60 years. The VIP data base contains data from 154,000 examinations of 105,500 individuals, and 45000 have participated at least twice. A series of papers are published on trends of major risk factors and identified different patterns across sex, age and educational groups. Evaluations of the effect of the VIP in terms of mortality are currently underway. Modified VIP community intervention models are being implemented in Indonesia and Vietnam; weight maintenance programmes in Sweden and the US are being compared; and diabetes studies are being extended to involve Palestinian communities. We plan to use our datasets to identify key determinants of a healthy life-course, studying implementation strategies to scale-up from local projects to full-scale implementation, and developing evaluation models that take the life-course perspective into account. A new addition to the VIP is the VIP-VIZA programme. In this programme the individual's atherosclerosis is visualized by ultrasonography of the neck arteries. Half of the participants and their physician are informed about the ultrasound results. This information will involve a visualisation of the results. The informed group will be compared to the group who has only received the usual health counselling within the VIP-programme, i.e. conventional information on risk of cardiovascular disease based on statistical models including conventional cardiovascular risk factors. All participants are managed at PHC according to current clinical guidelines for prevention and risk factor control. The effect in terms of change of risk factors and life style will be evaluated, as well as change of ultrasonography results and morbidity and mortality over the course of five years.

Coeliac disease (CD), also called gluten intolerance, has emerged as a global health problem affecting all ages. We currently host the only prospective incidence child CD register with nationwide coverage. This has revealed that Sweden has experienced a unique epidemic of CD explained partly by changes over time in infant feeding. Within a CD screening study 12 year-olds (n=18,000) from birth cohorts that differ with respect to infant feeding have been approached. We have revealed an unexpectedly high CD prevalence in both cohorts, however; significantly lower in the cohort introduced to gluten in small amounts while still being breast-fed, which presently is the Swedish national recommendation. A randomized field trial on infant feeding for prevention of CD in high-risk newborns is also ongoing within a European collaboration.

We study issues of sustainability in organizational learning, improvement, development, innovation and implementation within health and social care institutions in research projects funded by the Vinnvård Programme (www.vinnvard.se) and Vinnova. The research groups are multidis-

ciplinary and involve the SOLIID research network, with members also from Karolinska Institutet and Luleå University of Technology. One of the projects follows the implementation process of development and learning strategies in specialized medical care and within the Salut Programme, both in the Västerbotten county. These and other studies include issues on how to facilitate the learning and implementation processes on core organizational level and enhance lifestyle changes among patients and changes in practices on behalf of professionals.

The potential impact of the research is a better knowledge on how to make innovation, implementation and organizational learning reachable and sustainable for every unique context. These plans have been developed and carried out in synergy with the other UCGHR themes and with the Umeå SIMSAM Lab and its research programme "A register-based research programme connecting childhood with lifelong health and welfare (www.simsam.org.umu.se).

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Theme III: Strengthening primary health care: the roles of rights, ethics and economic analyses

The research in this theme is designed to inform key decision-makers involved in actions and interventions to strengthen primary health care in poor and rich countries, through projects stemming from integrated rights-based approaches and economic analyses. Our research is mainly operational using multidisciplinary methods and underpinned by the values and principles expressed in primary health care focusing on the functions of health systems as articulated by WHO. The research group is interdisciplinary and includes doctoral students based in India, Iran, Cambodia, Colombia, Peru, Guatemala, Ethiopia, Zambia, Tanzania, South Africa, Germany and Sweden. During 2013 we initiated Sida supported research training partnership programmes with the National University of Rwanda and Universidad Mayor de San Simon, Cochabamba Bolivia.

Our group work with four interrelated research areas i) Local governance and participation; ii) Priority setting and fair procedures; iii) Financing: iv) Service delivery and human resources.

This year we would like to highlight some activities in the latter area where we focus on service delivery to marginalised groups such as elderly, children and young people, migrants and rural communities. During 2013 we have represented Umeå university in a consortium funded by the European Refugee Fund which focuses on asylum seekers´ experiences and perceptions of Swedish health care. We have conducted research commissioned by the National Public health Institute to investigate if health coaching to promote healthier lifestyle among older people is effective.

Health workforce deficits pose a critical constraint to health system performance in many countries, and a strong case has been built for the use of mid-level health workers to address deficits in human resource for health. Auxiliary nurses, health extension workers, community health assistant are utilized as front-line health workers in Guatemala, Ethiopia and Zambia providing primary care in rural communities. During the year we have conducted multiple case studies to explore their role in strengthening local health systems and how they can be supported in their multiple tasks.

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Theme IV – Gender and Health

Health conditions in the world are strongly gendered and it is vital to include both women and men in global health research, as well as questions on various forms of sexual orientation. Gender is therefore one of the most important analytical categories (or variables) in research about human

beings and their social conditions. The overall aim of on-going and planned research is to generate new knowledge on gender and health and to support health development. The theme uses empirical data from a variety of sources. One of our basic aims is to develop research designs that combine qualitative and quantitative approaches. During 2013 the theme was added by one new PhD student (Kateryna Karhina) and a post-doc (Sandra Modh). In addition, we invited a guest professor for a month (Maria Emmelin). In order to present our research we organized a so-called 'research marathon', i.e. open lectures in which we presented several projects and connected results during a full day. Two professors from Alicante University were invited as key-notes; Carmen Vives Cases and Maria Teresa Riuz Cantero. Further, we organized a workshop on mixed methodology with two invited key-note speakers; Ulrika Östlund from Karolinska Institutet and Maria Emmelin from Lund University, who held open lectures and acted as discussants for the 8 paper presentations. Fourteen PhD students and senior researchers attended the workshop. We also took part in the work of a special issue for the journal Women's Studies International Forum with the title 'Challenging gender and violence: Positions and discourses in Swedish and international contexts'. The papers are now in press and Ann Öhman was one the two editors. Research collaboration with several institutions around the world continued, among them Alicante University in Spain and CIDS, UNAN-León in Nicaragua. Results from the masculinity and health-project were disseminated in Nicaragua during a two weeks period in November by Mariano Salazar and Ann Öhman. And collaboration with Umeå Centre for Gender Studies continued, for example with two seminars on masculinity in March and December. One of our PhD students; Elli Nur Hayati defended her thesis with the title 'Domestic violence against women in rural Indonesia: Searching for multilevel prevention'.

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Theme V: Climate change and global health

The overall aim of the research conducted within this group is to strengthen the knowledge of how climate change will affect the health of populations in the world, and to build capacity, competence and knowledge in order to mitigate and adapt to climate-induced risks globally.

Projects

A large number of projects have been conducted under the last year. Some of these aim at developing early warning systems, e.g. for malaria (Kenya) and dengue (Singapore, Indonesia, Vietnam and Sri Lanka). Modelling of dengue risks in Europe is another research activity involving theme members related to the DengueTools project. Within the ISI-MIP project, the impact of climate change on malaria was investigated together with international collaborators.

Others work on modeling short- and long-term climate impacts on health: Weather variability and mortality in Vadu, India, and climate variability and mortality in pre-industrial Sweden, among others.

Theme members also use qualitative methods to look at climate change impacts: Health and gender related impacts of climate change in eastern Indonesia, and a mixed-method project comparing perceived and observed climate change and variability in northern Sweden.

A large ongoing project in Indonesia where several researchers of our theme are involved is CC-MAP - Climate Change Mitigation and Adaptation Policies in the health sector, addressing the use of eHealth to reduce carbon emissions in the health sector.

The HOTHAPS network includes a Sweden-India cooperation to protect working people from health and productivity reductions due to workplace heat exposure in the context of ongoing climate change.

Finally, the multi-country Climate and Mortality (CLIMO) project including several INDEPTH sites resulted in a collection of papers about weather variability and mortality in low and middle income countries.

A complete list of all projects can be found on our website www.climateandhealth.net.

The theme has several representatives in the new IPCC 5th assessment reports contributing to the health chapters including Rainer Sauerborn, Tord Kjellström and Joacim Rocklöv.

In 2013 a new Lancet commission on climate change and health was formed, including Maria Nilsson.

Teaching

As in previous years, our theme organized the PhD course "Climate change and health – research methods" at Umeå University. About 20 students from all over the world participated in lectures, discussions and seminars. Theme members also taught in a course on qualitative and quantitative research methods at Hanoi Medical School, Vietnam.

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Other research projects

SIMSAM

The Swedish Initiative for research on Microdata in the Social And Medical Sciences (SIMSAM) aims to connect childhood with lifelong health and welfare by strengthen interdisciplinary register-based research in Sweden, and consists of a network of six research nodes and a graduate school. It is a research program financed by the Swedish Research Council (Vetenskapsrådet). The Umeå SIMSAM Lab is led by scholars from the following departments and divisions of Umeå University: Epidemiology and Global Health, Geography and Economic History, Occupational and Environmental Medicine, Sociology and Statistics.

The Umeå SIMSAM Lab, a nationally and internationally renowned center is characterized by i) a creative and interdisciplinary research environment; ii) a production of high quality research within its fields of knowledge; iii) accessibility for the research community, and an open-mindedness for collaborative studies; and iv) capacity to bring research into policy.

The following activities are important:

- Perform high quality aetiological studies on determinants of children's health and their lifelong health and welfare, combining social and medical sciences, and contribute to the development of novel microdata research methods.
- Perform high quality evaluations of reforms and interventions, whether implemented or under consideration, regarding their cost and consequences.
- Further develop the unique microdata infrastructures at Umeå University and elsewhere in Sweden, in order to facilitate studies on childhood and lifelong health and welfare. Here, the Salut Programme in its population-based longitudinal design, will provide an important contribution.
- The Umeå SIMSAM Lab use a four-layer structure with an advisory board, a core team of skilled researchers, promising post-doc researchers, and PhD students. The final three layers work in interdisciplinary research teams.

INTREC - INDEPTH Training & Research Centres of Excellence

INTREC is a project funded under the Health theme of the Seventh Framework Programme of the European Community. The work is carried out by a Consortium team of five university-based centres in Sweden, Germany, Netherlands, Indonesia and USA and by one research network of demographic surveillance sites in LMICs with headquarters in Ghana (INDEPTH). Umeå University is the coordinator of the consortium.

The WHO's Commission on Social Determinants of Health **(SDH)** argued in 2008 that the dramatic differences in health status that exist between and within countries are intimately linked with degrees of social disadvantage. These differences are unjust and avoidable, and it is the responsibility of governments, researchers, and civil society to work to reduce them. Part of this work requires the production of setting-specific, timely, and relevant evidence on the relationship between social determinants of health and health outcomes, and yet this information is limited, especially in *low- and middle-income countries* (LMICs).

INTREC has been established with dual aims:

- **Providing SDH-related training** for *The International Network for the Demographic Evaluation of Populations and Their Health researchers* (INDEPTH), thereby allowing the production of evidence on associations between SDH and health outcomes.

- **Enabling the sharing of this information** through facilitating links between researchers and decision makers, and by ensuring that research findings are presented to decision makers in an actionable, policy-relevant manner.

INTREC activities will cover three African (Ghana, South Africa, Tanzania) and four Asian countries (Indonesia, Viet Nam, Bangladesh, India) and will be concentrated in two training centres in Ghana and Indonesia.

INTREC approach to capacity-building is holistic and includes both, providing state-of-the-art region-specific training for young researchers, and educating decision-makers on social determinants of health. The work will be carried by a strong Consortium team of five university-based centres in Sweden, Germany, Netherlands, Indonesia and USA and by one research network of demographic surveillance sites in LMICs with headquarters in Ghana (INDEPTH).

DengueTools – Comprehensive control of Dengue fever under changing climatic conditions

The DengueTools project is funded by the European Commission for four years and led by Annelies Wilder Smith, an expert on dengue fever and visiting Professor at the Epidemiology and Global Health Unit at Umeå University. The project aims to expand knowledge on dengue and to develop tools for monitoring and control of the disease.

The project is run by a consortium of 14 member organizations from around the world, which in turn are divided into 12 Work Packages and 3 research areas. The hosting institution is the Centre for Global Health Research at Umeå University.

- Research area 1 focuses on developing new tools for the surveillance of dengue fever.
- Research area 2 carries out laboratory and community based studies to develop new tools for the prevention of dengue fever in children.
- Research area 3 examines the risk of the global spread of dengue fever.

For more information, visit:
www.denguetools.net

The Salut Programme - A Child-Health-Promoting Intervention Programme in Västerbotten

Mental health problems and overweight/obesity have emerged as alarming health problems in many countries, also in Sweden. Therefore, in 2005 the Salut Programme was launched in Västerbotten combining epidemiological surveillance and health promotion. The Programme constitutes a key element in the health authority's vision to have the healthiest population in the world by 2020.

The Programme has a systematic, multisectorial, family-centred approach to health promotion and prevention among children 0-18 years, starting already during pregnancy. It is organised into seven age-specific modules; Module I for the unborn child (i.e. the pregnancy), Module II for 0-1½ year olds, etc. up to Module VII for 16-18 year olds. Priority is given to: 1) secure and favourable conditions during childhood and adolescence; 2) increased physical activity; and 3) healthy eating habits. The programme has been developed and implemented in close collaboration with health authorities within antenatal care, child health care, dental services, day-care centres and schools. Fully implemented the Salut Programme will target all expectant parents and children, corresponding to ≈3000 births annually and 57000 children. Lifestyle, health and living conditions are prospectively monitored using questionnaires and routine health check-ups.

The Programme is stepwise becoming a quite unique infrastructure to research on children and their lives. The infrastructure has so far been used as the basis for the following research: 1) Obesity, self-rated health and lifestyle in expectant parents and 13-15 year olds, 2) Parents' experiences of health promotion and lifestyle change during pregnancy and early parenthood, 3) Professionals' experience of factors influencing programme implementation and sustainability, and 4) Change and learning strategies.

Etics

Celiac disease is common and often unrecognised with negative health consequences. Treatment implies lifelong exclusion of all food with gluten (wheat, rye and barley). Sweden has experienced a celiac disease epidemic, with no likeness anywhere in the world, partly explained by changes in infant feeding. This provides a unique opportunity to evaluate if primary prevention of CD is possible (aim 1), and to explore any relation between gluten ingestion and other autoimmune diseases (aim 2). Most CD cases will only be diagnosed through mass screening programs, which need to be evaluated considering consequences for individuals and society (aim 3). The ETICS study - *Exploring the Iceberg of Celiacs in Sweden* – is an ongoing multicenter project requiring a dedicated and long-term effort. Cornerstones are two CD screening efforts (2005-2006 and 2009-2010) involving 17 608 12-year-olds, and with 1- and 5 year follow-up studies. Data collection includes blood samples, weight and height, questionnaires (with validated instruments), narratives, and focus groups. We have successfully completed both CD screening field phases, while the follow-up studies are ongoing. Data compiled are extensive and allow us to elucidate the questions of primary prevention and association between gluten ingestion and autoimmunity. We will also clarify whether CD mass screening is a wise use of resources. Results reported so far have attracted great interest both nationally and internationally.

Collaboration locally and regionally

Region Västerbotten

Region Västerbotten is involved in the nationwide work to build regional support structures that are sustainable in the long term, for the development of knowledge within social services and relevant areas within health and medical care. The support structure is coordinated and operated by FoU Västerbotten in partnership with other R&D environments, Umeå University, county councils and municipalities. Key elements of this support structure include the Knowledge Network, where representatives from organisations including Umeå University, R&D environments within the county, Memeologen and FORSA Norr come together four times a year, and the development potential represented by the county's 30 R&D agents.

Region Västerbotten shall contribute towards increasing the level of expertise for those who work in social services and related county council operations. FoU Västerbotten's assignment is to assist the responsible authorities with knowledge, method and implementation support, and to disseminate current research and new knowledge within the field of social welfare. Its operations shall support improvements and carry out practical research, ideally in partnership with other knowledge environments.

FoU Västerbotten works within the target group areas of the elderly, children and young people, substance abuse and addiction, and people with disabilities. Its operations provide education and practical support for evidence-based practice. One important part of the work involving the three knowledge sources – research, the user/patient and the profession – involves carrying out monitoring and evaluations at individual, group and operational levels. This includes the use of various monitoring tools, open comparisons and quality registers. FoU Västerbotten provides analysis support in order for operations to be able to make concrete improvements.

FoU Västerbotten works together with Umeå University, and one of FoU Västerbotten's directors of research holds an adjunct lectureship at the Unit for Epidemiology and Global Health, providing an exchange of services and knowledge. Increased collaboration has been initiated in order to strengthen the link between research and practice during the year. In addition to the scientific knowledge support that thereby becomes available to municipalities and county councils, there are also greater opportunities for new joint research projects.

Västerbotten County Council

For many years now the County Council has had the pleasure of working closely with the division of Epidemiology and Global Health. The collaboration is regulated by an agreement between the University and the County Council.

The County Council has the advantage -the only one in Sweden to have such an agreement- to have access to new scientific base for the health interventions that are being planned. The department on the other hand, has through this cooperation access to the daily life of a health care organisation and can therefore quickly learn and observe the difficulties in implementing new research. No matter how good the research, the organisation will always have to adopt to new ways of working or new ways of thinking – not always an easy task. In this mutual world of improving preventive work carried out within the County Council, the Västerbotten Intervention Programme has developed immensely during this collaboration, and is now one of the most important preventive strategic (population based) contributions to the people in the county of Västerbotten. In many ways thanks to the extensive research carried out by the university, and, of course, the nurses within the County Council. Within the health initiative Salut, professionals from health – and hospital care have together with researchers from the division and health promotion officers from the county council developed health questionnaires within the antenatal care system, children's health program within the child health care

system, health talks within the dental care system and with staff and teachers also developed health programs within schools.

These are some of the positive outcomes thanks to the close collaboration between our different organisations, but last and not least – we get to know new good friends and colleagues.

Register Centre North

The Centre of Quality Registries North (CQN) is part of a national organisation for support of Sweden's approximately 100 national quality registries. CQN like the other 5 similar centres, one in each health care region, provides skills in IT, statistics, scientific advice and methodology for feedback and improvement. CQN has a close collaboration with the Swedish Regional Cancer Centres (RCC), especially RCC North among other things concerning the most commonly used Swedish IT-platform for quality regestries, INCA.

CQN is part of the Västerbotten County Council's infrastructure for R&D, and both runs and participates in projects both on a national and regional level on health care quality improvement and clinical research together with Memeologen, Clinical Trial Unit, Clinical Research Centre Umeå, Biobank North Sweden and KBN, a platform for clinical trials in all four counties in Norrland.

Consequently CQN provides a broad platform of operational processes in health care and several collaborations of value for clinical research.

CQN welcomes the collaboration with Epidemiology and Global Health (EGH) at Umeå University. We think that statisticians at CQN taking part in education at EGH can provide rootedness in clinical practice, and also develop their skills in statistics and above all epidemiology together with the staff at EGH. EGH's skills in health economy will be important for the development of the format for the feed back from quality registries to health care. There will also be several areas suitable for partnership in research in health economy, on development of PROM, and for implementation research.

Center for Rural Medicine, Storuman

The Center for Rural Medicine (in Swedish, glesbygdsmedicinskt centrum or GMC) is a research and development unit in Storuman, southern Lapland, but also a unit of Västerbotten County Council. The aim of this unit is to increase knowledge in how both health and social care can be best tailored to meet the needs of the population in Västerbotten and across the country, as well as to increase the recruitment of physicians and other healthcare professionals within the more rural areas of Sweden.

GMC's mission is to work with education, research and development in four predominant areas:

- Enhancing collaborative work practices between County and State/Municipal departments
- Development of the "Community of Hospital Model"
- Development of technology which can enhance medical practices/techniques available via distance
- Sami health care

The main objectives of GMC are to:

- Contribute to the evaluation and definition of the health and social care provided in rural areas
- To stimulate and conduct research and development in topics related to rural areas, specifically where challenges currently present in relation to health and social care
- To serve as the center for preventative health care, research and development in relation to the County's Sami population
- Initiating training programs so as to increase skills in rural health care
- The strengthening and promotion of international contacts within the global field of rural medicine

GMC is currently working to identify collaborative partners who have both national and international knowledge of funding sources, as well as locally based competence where such professionals are also scientifically qualified. A valuable asset within those GMC are seeking, is to have connections and networks within both the inland

municipalities and the Community Hospitals in southern Lapland, An area of focus will be to develop rural health care within the four northernmost Counties of Sweden.

GMC continues to broaden its research and development practices through working collaboratively with university departments appropriate to active projects.

GMC are additionally seeking to create opportunities for graduate work. In collaboration with the Epidemiology and Global Health Unit and the Dept.of Public Health and Clinical Medicine GMC have recently also sought funding for additional further research endeavours.

The Stockholm Declaration

On April 4-5, 2013 Swedish Society of Medicine held an event entitled "*Global Health beyond 2015*" with the aim to discuss the future challenges for global health. Under an overall umbrella of poverty and inequality, the meeting concentrated on three issues that are driving the changing global context of health: the underlying determinants of health, non-communicable diseases, and climate change (1). EpiGH was proudly one of the members of the conference's organisational committee contributing to both the development of this important event and the creation of its main outcome – the Stockholm Declaration for Global Health.

Intended as a bottom-up framework, open to all with any kind of interest in global health (1), it became "a public engagement with global health, not another high-level meeting" (2). Over 1000 participants gathered at Stockholm's Waterfront Centre and numerous participants joined remotely via social media during the events' first day packed with presentations and discussion panels between the high-level speakers, including Arun Nanda, *WHO,* Richard Horton, *The Lancet,* Mariam Claeson, *Bill and Melinda Gates Foundation*, Anders Nordström, *Swedish Ministry of Foreign Affairs,* and many others. Questions from the audience (both present in the conference hall and remotely) were regularly fed into the discussion. The next day, a smaller group of around 200 students and young professionals continued to deliberate with opinion leaders on the future challenges in global health. Ministers in the Swedish Government, global health leaders, students, health care practitioners and activists interacted freely and debated on the future global health agenda, making this event "a revitalizing meeting – taking the meaning of an engaging conference to another level" (3).

The discussions resulted in a Stockholm Declaration which is hoped to serve as an unofficial but influential framework within which Scandinavia, and other countries, can engage fruitfully with global health (4).

On the picture are some authors of the Stockholm Declaration team (from left to right): Peter Byass, Robert Beaglehole, Peter Friberg, Gunhild Stordalen, Stig Wall, Mikael Standänger, Yulia Blomstedt.

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GLOBAL HEALTH beyond 2015

The Swedish Society of Medicine

The Stockholm Declaration for Global Health

To promote social justice globally, and to safeguard the wellbeing of current and future generations, the Stockholm Declaration for Global Health urges governments, the global health community, schools and universities, development agencies, donors, policy makers, research funding agencies, the business sector and civil society to act urgently on existing evidence in the following areas:

Linking on-going agendas with new agendas
Ensure that the post-2015 development agenda builds on current MDGs, is universal and incorporates emerging challenges. These include socioeconomic and gender inequalities, non-communicable diseases (such as heart disease, stroke, diabetes, cancer, and chronic respiratory disease), and climate change (including threats to food and water security).

Creating stronger leadership and accountability so that health is at the centre of development
Ensure that health is a high-profile unifying theme in the post-2015 development agenda, positioned to act as a catalyst for human rights and global solidarity; and that appropriate accountability mechanisms and professional leadership for global and national commitments are established.

Building capacity and investing in health
Invest in leadership for global health through education from primary school to university, and enable public empowerment by bringing together networks for intersectoral multidisciplinary research and action on global health.

Exploiting opportunities and synergies
Identify and exploit opportunities for applying effective democratic principles to ongoing health agendas (including maternal, child, and mental health), violence, climate change, and other emerging challenges, thus bringing sustainable social, ecological, and economic short-term and long-term returns for both public and private sectors. Pursue synergies such as health and climate co-benefits that bring multiple gains.

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Ruth Bonita, University of Auckland, Auckland, New Zealand
Gunhild Stordalen, Stordalen Foundation, Oslo, Norway
Peter Byass, Umeå Centre for Global Health Research, Department of Public Health and Clinical Medicine, Umeå University, Sweden

Table 3. Seminars at the department during 2013

January	**Phan Minh Trang** – PhD plan presentation Weather variations in association to depression among adults in Vietnam
February	**Lubin Lobo** - Lic plan presentation The right to health of refugees and asylum seekers in Sweden
	Fatwa Sari Tetra Dewi – Dissertation Working with community. Exploring community empowerment to support non-communicable disease prevention in a middle-income country
	Bharat Randive – PhD plan presentation Study of conditional cash transfer programmes for promotion of institutional births in India
March	**Yien Ling Hii –** Pre-Dissertation Climate and Dengue Fever: Dengue Early Warning based on Temperature and Rainfall
	Miguel San Sebastian Post-2015 UN development agenda: are we repeating the same mistakes?
	Kristina Edvardsson – Pre-Dissertation Health promotion in pregnancy and early parenthood: The challenge of innovation, implementation and change within the Salut Programme
April	**Peter Schulz** Maximizing Health Outcomes Through Optimal Communication
	Faustine Nkulu Kalengayi – Dissertation A world on the move: challenges and opportunities for HIV/AIDS/tuberculosis care and prevention among vulnerable migrant populations in Sweden
	Cahya Utamie Puji Lestari – Midterm seminar Clustering of chronic non-communicable diseases risk factors in Purworejo District, Indonesia
	Kateryna Karhina – PhD plan presentation The role of social capital and gender for mental health comparative studies between Sweden and Ukraine
May	**Yien Ling Hii –** Dissertation Climate and Dengue Fever: Dengue Early Warning based on Temperature and Rainfall
	Kalle Grill Public health ethics and food regulation
	Tesfay Gebrehiwet – Midterm seminar Maternal health care utilization in Tigray region, Ethiopia
	Maria Furberg- Midterm seminar Climate change aspects of health in northern Sweden
	Jonas Hansson – PhD plan presentation The role of police authority in deportation work of unaccompanied children
	Johanna Sundqvist - PhD plan presentation The role of Social Services in repatriation of unaccompanied children
	Kamran Khan Confronting Infectious Diseases in an Increasingly Interconnected World
	Jing Helmersson – PhD plan presentation The development of a dynamic epidemiological weather driven model of dengue
	Kristina Edvardsson – Dissertation Health promotion in pregnancy and early parenthood: The challenge of innovation, implementation and change within the Salut Programme
June	**Katrina Nordyke** – Pre-dissertation Mass screening for celiac disease. A public health intervention from the perspective of the participants
	Kristina Lindvall – Pre-dissertation The able to be stable ones - Primary weight maintenance as a public health strategy for obesity prevention
	Ailiana Santosa – Midterm seminar Towards a better understanding of epidemiological transition, based on Sweden's experience
	Frank Odhiambo (Director Kisumu HDSS, INDEPTH) The Kisumu HDSS, Kenya
	Kristie Ebi A New Scenario Framework for Climate Change Research
August	**Viveca Larsson** –PhD seminar "A suffering heart": On the health of women living with violence in Vietnam

September	**Rhonda Small** – Theme 2 seminar Migration and motherhood: immigrant women in Australia
	Robert Jonzon - PhD plan presentation The role of health examination in meeting the needs of asylum seekers and Swedish society
	Anis Fuad – Theme 1 seminar The Uses of Social Network Analysis in Public Health"
	Kristina Lindvall – Dissertation "Being able to be stable". Exploring primary weight maintenance as a public health strategy for obesity prevention
	Aditya Ramadona – PhD plan presentation Developing and Validating a Dynamic Model of Dengue Transmission with Application to Climate Change Projections
	Sulis Tyawati – PhD plan presentation Mapping Human Health Vulnerability To Climatic Extreme Events in Yogyakarta
October	**Paul Mee**- Midterm seminar Who dies where and why? An investigation of changing spatio-temporal patterns of mortality associated with the roll out of Anti-Retroviral treatment and the opening of a public-private health centre in Agincourt, South Africa
	Per Ashorn (University of Tampere, Finland) Promoting healthy growth – introduction to UTA research on child health in Malawi
	Anand Krishnan – Dissertation Gender inequity in child survival: Travails of the girl child in rural north India
	Nguyen Thu Huong – PhD plan presentation Birth weight and physical growth during the first two years of life of infants in urban and rural areas Vietnam
	Amaia Maquibar – PhD plan presentation Exploring intimate partner violence in the Basque Country: a focus on health systems and young people
	Viveca Larsson –Midterm seminar "A suffering heart": On the health of women living with violence in Vietnam
	Moses Tetui - PhD plan presentation Participatory action research approaches and sustainability; a maternal health program in Eastern Uganda
	Siddhivinayak Hirve – Dissertation In General, how do you feel today?" Self-rated health in the context of aging in India
	Laila Daerga – PhD plan presentation Health aspects among the reindeer herding community - living between two worlds
November	**Curt Löfgren** – Phd plan presentation Protecting vulnerable groups from catastrophic health care expenditure. The case of Vietnam
	Karl Bonnedahl Rethinking development
	David Grossman How can evidence-based prevention recommendations be useful? The challenges facing the US preventive services task
	Katrina Nordyke – Dissertation Mass screening for celiac disease: A public health intervention from the participant perspective
	Joseph Zulu – Midterm seminar Integrating community health assistants into the health system in Zambia. Opportunities, challenges and the way forward
	Paola Mosquera Mendez – Pre-dissertation Learning from the experiences of primary health care: The case of Bogota, Colombia
	Anna Stenling – PhD plan presentation Cost-effectiveness of the Västerbotten Intervention Program
December	**Per Gustafsson** Life course perspectives on health inequities
	Elli Nur Hayati – Dissertation Domestic violence against women in Indonesia: Exploring different sources in the search for multi level prevention
	Linda Sundberg – Midterm seminar Development and implementation of National Clinical Guidelines in Swedish Healthcare - The challenge to transform new knowledge to clinical practice
	Rakhal Gaitonde – PhD plan presentation The policy implementation gap of community accountability mechanisms, India
	Anna Lundgren – PhD plan presentation Direct Visualization of asymptomatic atherosclerotic disease for optimum cardiovascular prevention. A population based pragmatic randomised controlled trial within Västerbotten Intervention Programme - VIP-VIZA

Education

Public health program students and some staff

An integral component of the development of the international collaborations has been the International Public Health training, starting from ad hoc training courses and workshops that formed a springboard for the research projects. What started as short courses in epidemiological methods has grown into full master programmes in public health taught in English and with major recruitment from abroad, mainly from low and middle income countries. Since 2001, these activities have had the status of an international school within the university. With their strong research orientation, the programmes have retained their role as channels into research training.

Master Programmes in Public Health

The first courses in public health in Umeå were given in 1986. Five years later, in 1991, a master programme in public health was started. This was a one-year programme. Its structure remained basically the same until 2007, although it was continuously revised in content.

In the 1990's the programme recruited an increasing number of students from low- and middle income countries. Many of these students came from our international research collaborations. This group of students has come to strongly dominate our student body.

In 2007 there was a large change of the programme. As a result of the Bologna process, but also due to student demand and a wish from the staff to be able to go deeper into different areas, the program was changed into a two-year programme focusing on epidemiology, health systems and social conditions and health.

A decision on tuition fees taken by the Swedish Parliament led to a drop of in-

coming students in the fall of 2011 since non-European students now have to pay tuition fees. To meet this situation we are therefore offering two programmes – both a one- year and a two-year programme. The one-year programme is equal to the first year of the two-year programme.

The Master Programme in Public Health – the first year

Global Public Health - 10 credits

Biostatistics 1 - 5 credits

Epidemiology - 10 credits

Qualitative Methodology 1 - 5 credits

Health Systems - 5 credits

Health Economic Evaluation Methods - 5 credits

Social Pathways in Health and Health Promotion - 5 credits

Master thesis - 15 credits

The first year equals the one-year programme

The Master Programme in Public Health – the second year

Evaluation in Public Health - 5 credits

Biostatistics 2 - 5 credits

Advanced Methods in Epidemiology - 5 credits

Chronic Diseases Epidemiology or Advanced Topics in Health Economic Evaluation Methods - 5 credits

Social and Gender Inequalities in Global Health - 5 credits

Qualitative Methodology 2 - 5 credits

Social Epidemiology - 5 credits

Health Care Management - 5 credits

Public Health Informatics - 5 credits

Master thesis - 15 credits

In the new two-year programme we are still offering all of the courses that started in 2007. They have, however, been reduced in size from 7.5 ECTS credits to 5 ECTS credits.

Since the introduction of tuitions fees we have been awarded funds from the Erling-Persson Family Foundation making it possible for us to offer scholarships covering the tuition fees for students from outside EU. Other scholarships from the Swedish Institute and the government have also been introduced, opening up the opportunities for these students to attend our programs. This year we have 12 new one-year students and 25 new two-year students while 12 students are in their second year, constituting a pronounced mix of students from Sweden, EU and countries across the globe. The composition of students makes our programmes unique and is perceived as one of the strengths by our students.

Graduation ceremony June 2013

Group work

Sources of public health programme students 1991-2013

Single subject courses

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

Highest marks for our MPH programme

In 2012 the Swedish National Agency for Higher Education evaluated all public health programmes in the country. The evaluation resulted in the agency giving one of the following three marks to each programme: lacking in quality, high quality or very high quality. The evaluation included 23 degree programmes in public health sciences at 15 universities.

Only one of the two-year master programmes received the highest mark – the Umeå programme. Our one-year programme was deemed to be of high quality.

Here is an excerpt of the interview with Professor Lars Weinehall, then head of the Department of Epidemiology and Public Health where he explains:

> "We need the international element that our students represent. The students' own experiences strengthen the quality of education and help create an interesting learning environment. Education and research are closely connected here. We have a large centre for research on global health which is one of the university's strong research environments. We also have a number of research collaborations with universities in low-income countries. Education and research cross-fertilize each other and some of our master's students continue on to doctoral students in our research projects. It is particularly encouraging that the Swedish National Agency of Higher Education lauded our students' in-depth knowledge of methodology, the ability to critically and systematically integrate knowledge and the general orientation in the profile area of global health."

(Editor: David Meyers , Link to news: http://www.umu.se/english/news/.cid193926)

In addition, Umeå University has been ranked first in Europe and ninth in the world for student satisfaction according to the latest International Student Barometer (ISB). The survey was responded to by international students from 170 universities in the world during the autumn of 2013. This marks the third consecutive year in which Umeå University received the top overall satisfaction ranking in Sweden by international students. Both these rankings act as incentives for us to continue striving for offering education of very high quality.

Educating the medical students

Since 2002 the Unit has been responsible for teaching the medical students in community medicine and since 2005 also in global health; a course that was introduced in a student request. The lectures in community health have recently been moved from semester 10 to semester 5, as a consequence of the new U2007 curriculum. The separate week in global health has also, due to the same reason, been moved from semester 9 to semester 5 so almost all public health lectures are given during this semester under the acronym of "Games", interpreted as Global health, Occupational and Environmental Medicine, Medical Law, Epidemiology and Social Medicine. The teaching is accomplished together with the Unit of occupational and environmental medicine and the department of law.

Biomedical programme

During the first semester of the 'Biomedical programme' (180 credits), our unit is responsible for a 7.5-credit course in *Epidemiology and biostatistics*. In the autumn 2013 course, 36 students participated.

Other teaching

In addition to the Master Programme in Public Health, and the two other programmes mentioned above, members of the Unit are also teaching in several other programmes. Teaching is conducted/carried out on all academic levels, from basic- to PhD-level. Examples of departments where the members of the Unit are teaching (on basic to master level) are the Departments of "Nursing", "Community Medicine and Rehabilitation", "Ontology" and "Food and Nutrition". Teaching is also being conducted/carried out at Umeå School of Education.
On the PhD-level the Unit is main responsible for the majority of the research training courses given at the Medical Faculty.

Research training

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

Activities during doctoral days 2013

Presently (Dec 31st, 2013) 65 research students are registered at the Unit, 30 men and 35 women (Table 5). 40 PhD students have been recruited within international research collaborations,

while 25 are Swedish based research students. In the period 1987 – 2013, 96 PhD theses and nine licentiate theses were defended at the Unit. Several of the research students are also affiliated with another department, e.g. a clinical department, or to a university in another country. Corresponding representation of two or more departments is often found among the advisors to the research students.

Our Unit is responsible for a major part of the basic research-training course of the Medical Faculty, and we offer courses in both quantitative and qualitative methods.

PhD students and staff at Epidemiology and Global Health

Swedish Research School for Global Health

In 2008 Umeå University and Karolinska Institutet launched the Swedish Research School for Global Health with financial support from the Swedish Research Council. In 2013 the financial support continued with a grant from FORTE and Lund University joined forces. The three institutions have different strengths within the area of global health research and the Research school takes advantage of the different capacities and complementary competences. The main aim is to develop and strengthen the capacity for research training in global health, through multi-disciplinary collaboration in education, research and training. The specific aims of the research school are to provide courses and seminars in global health on a doctoral level, to secure a base of new generations of researchers in global health and to provide a creative environment for students and teachers.

The Research School offers a broad variety of doctoral courses comprising topics in global health, advanced method courses, professional development and thematic workshops with networking opportunities.

Students of the Research School can attend the programme's courses at the cooperative institutions and can apply for funding of external national and international courses, workshops and conferences. The possibility to have support for internationalisation has been much appreciated by students who have had the possibility to visit other research institutions and international agencies, participate in specialised courses and disseminate their findings at international and regional conferences.

Currently 76 students have been admitted to the School and by end of 2013 27 students had successfully defended their theses.

The annual meeting 2013 took place in Vindeln, Västerbotten, September 30 to October 2. Two days of the meeting was dedicated to a workshop on values in global health research training facilitated by Prof John Porter, London School of Hygiene and Tropical Medicine, UK.

Research school annual meeting in Vindeln, September 2013

Scholarships 2013/2014

The Erling-Persson Master of Public Health Scholarship

Rasha Kunna
Sudan

Said Masoud
Turkey

Saw Min Thu Oo
Myanmar

Kumar Saurabh
India

Adelaide Luhigo
Tanzania

Kamola Ortikova
Uzbekistan

Boniface (Lucas) Wilunda
Kenya

Umeå University Master of Public Health Scholarship

Debalina Bose
India

Aliashraf Seyffarsshad
Iran

The Swedish Institute Master of Public Health Scholarship

Hamida Nkata
Tanzania

Kirubel Zemedkund
Ethiopia

Kifle Yohannes Assefa
Ethiopia

Marian Kyeremeh
Ghana

Najibullah Hamid
Afghanistan

Septi Kurnia Lestari
Indonesia

The Global Health Research scholarships for PhD students

Vu Duy Kien
Vietnam

Maquins Sewe
Kenya

Thaddaeus Egondi
Kenya

Moses Tetui
Uganda

Nitin Gangane
India

Kanyiva Muindi
Kenya

Kateryna Karhina,
Ukraine

PhD events during 2013

Fatwa Sari Tetra Dewi

Faustine Nkulu Kalengayi

Yien Ling Hii

Kristina Edvardsson

Kristina Lindvall

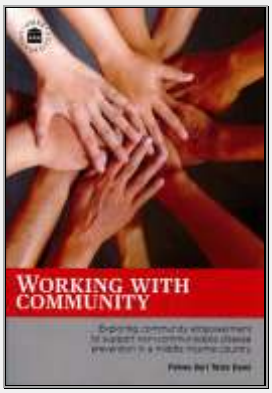
Anand Krishnan

Siddhivinayak Hirve

Katrina Nordyke

Elli Nur Hayati

Fatwa Sari Tetra Dewi



Working with community. Exploring community empowerment to support non-communicable disease prevention in a middle-income country

Thesis defended 8 February, 2013
Supervisors: Lars Weinehall, Hans Stenlund, Ann Öhman, Mohammad Hakimi
Opponent: Professor Charli Eriksson, Hälsoakademin, Örebro University, Örebro

Background: Non communicable diseases (NCD) are recognized as a major burden of human health globally, especially in low and middle-income countries including Indonesia. This thesis addresses a community intervention program utilizing a community empowerment approach to study whether this is a reasonable strategy to control NCD.

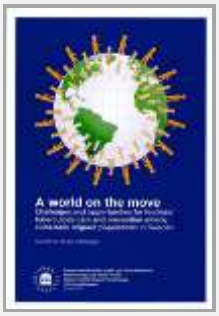
Objective: To explore possible opportunities, common pitfalls, and barriers in the process of developing a pilot community intervention program to prevent NCD in an urban area of a middle-income country.

Methods: The study was conducted in Yogyakarta Municipality. The baseline risk factor survey in 2004 (n=3205) describes the pattern of NCD risk factors (smoking, physical inactivity and low fruit and vegetable intake) and demographic characteristics using STEPwise instrument. A qualitative study was conducted in order to illustrate peoples' perceptions about NCD risk factors and how NCD might be prevented. A pilot intervention was developed based on the baseline survey and the qualitative data. The pilot intervention was conducted in four intervention communities while one community served as the referent area. The intervention was evaluated using quantitative and qualitative approaches. Finally, a second cross-sectional survey conducted in 2009 (n= 2467) to measure NCD risk factor changes during the five year period.

Results: Baseline qualitative data showed that people in the high SES (Socio Economic Status) group preferred individual activities, whereas people in the low SES group preferred collective activities. Baseline survey data showed that the prevalence of all NCD risk factors were high. The community intervention was designed to promote passive smoking protection, promote healthy diet and physical activity, improve people's knowledge of NCD, and provide a supporting environment. A mutual understanding between the Proriva team and community leadership was bargained. Several interactive group discussions were performed to increase NCD awareness. A working team was assigned to set goals and develop programs, and the programs were delivered to the community. There were more frequent activities and higher participation rates in the low SES group than in high SES group. The repeated cross-sectional surveys showed that the percentage of men predicted to be at high risk of getting an NCD event had significantly increased in 2009 compared to 2004.

Conclusion: The community empowerment model was a feasible choice as a "moderate"strategy to accommodate with people's need when implementing a community intervention that also interacts with the service provided by the existing health system. A community empowerment approach may improve program acceptance among the people.

Faustine K Nkulu Kalengayi



A world on the move. Challenges and opportunities for HIV/AIDS/TB care and prevention among vulnerable migrant populations in Sweden

Thesis defended 19 April, 2013
Supervisors: Anna-Karin Hurtig, Beth Maina Ahlberg, Clas Ahlm and Ingela Krantz
Opponent: Professor Allan Krasnik, Department of Public Health, University of Copenhagen, Copenhagen, Denmark

Background: Migration is a global phenomenon that characterize today's globalized world. Although, the relationship between migration and health in the host countries is not always negative, many countries, including Sweden are concerned about possible spread of infectious diseases of public health significance such as HIV/AIDS and tuberculosis (TB). Moreover, apart from disease profiles, migrants also have different socio-cultural backgrounds, which may challenge health care access and provision.

Objectives: To investigate, identify, and delineate potential challenges of relevance in the care and prevention of communicable diseases of public health significance in general and particularly HIV/AIDS and TB among migrants from countries where these infections are endemic, and eventually generate knowledge that could inform policies and practice.

Methods: Data for this thesis were collected in four of the five counties of the Northern region in Sweden. Quantitative and qualitative methods were used including a survey of 268 migrant students in two language schools (I & II); an interview study with 10 care providers caring for patients with migrant backgrounds and observations of care encounters (III) and an interview study with 15 care providers experienced in screening migrants (IV). Descriptive and logistic regression analyses were used to summarize survey data whereas a thematic analysis approach was applied to the qualitative data within the interpretive description framework.

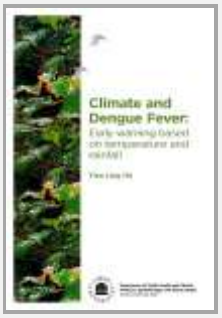
Results: The students scored on average low on both HIV/AIDS and TB knowledge and displayed misconceptions and negative attitudes towards the two diseases and infected/sick persons. Knowledge level and attitude could be predicted by prior knowledge, years of previous education and geographic origin. In contrast, no association was found between being screened and the level of TB knowledge or attitude towards TB and infected/sick persons. However, fear of being deported appeared to be the main predictor of reluctance to seek HIV/AIDS care after controlling for socio-demographic factors, knowledge level, stigmatizing attitudes and fear of disclosure. Health care providers described complex and intertwined challenges that influenced both care delivery and receipt. The challenges described included language, the socio-cultural diversity within migrant groups and between migrants and the caregivers. These often resulted in divergent perceptions and expectations about care and caring. The participants highlighted the complexities of caring for diverse patients within different institutions with conflicting policies and frameworks. They also described the difficulties the migrants face in navigating the Swedish care system.

Conclusions: This thesis illuminates complex challenges in the care of migrants. The findings emphasize the need for multilevel strategies in order to remove identified barriers. This requires accommodating diversity by improving care providers' cultural competence and migrants' health literacy. It further requires policies and practices that emphasize health services responsiveness in order to provide equal access and equitable care. Finally, it entails revisiting existing policies and legislative frameworks to promote a change in ways of thinking about and approaching migration, HIV/AIDS and TB issues, to address the specific vulnerabilities of mobile populations in a world on the move.

Yien Ling Hii

Climate and Dengue Fever: Early warning based on temperature and rainfall

Thesis defended: 3 May, 2013
Supervisors: Nawi Ng, Joacim Rocklöv and Rainer Sauerborn
Opponent: Professor Sven Britton, Karolinska Institutet, Stockholm



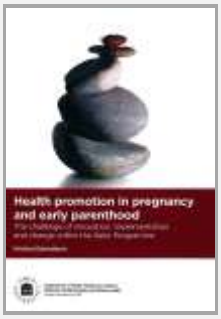
Background: Dengue is a viral infectious disease that is transmitted by mosquitoes. The disease causes a significant health burden in tropical countries, and has been a public health burden in Singapore for several decades. Severe complications such as hemorrhage can develop and lead to fatal outcomes. Before tetravalent vaccine and drugs are available, vector control is the key component to control dengue transmission. Vector control activities need to be guided by surveillance of outbreak and implement timely action to suppress dengue transmission and limit the risk of further spread. This study aims to explore the feasibility of developing a dengue early warning system using temperature and rainfall as main predictors. The objectives were to 1) analyze the relationship between dengue cases and weather predictors, 2) identify the optimal lead time required for a dengue early warning, 3) develop forecasting models, and 4) translate forecasts to dengue risk indices.

Methods: Poisson multivariate regression models were established to analyze relative risks of dengue corresponding to each unit change of weekly mean temperature and cumulative rainfall at lag of 1-20 weeks. Duration of vector control for localized outbreaks was analyzed to identify the time required by local authority to respond to an early warning. Then, dengue forecasting models were developed using Poisson multivariate regression. Autoregression, trend, and seasonality were considered in the models to account for risk factors other than temperature and rainfall. Model selection and validation were performed using various statistical methods. Forecast precision was analyzed using cross-validation, Receiver Operating Characteristics curve, and root mean square errors. Finally, forecasts were translated into stratified dengue risk indices in time series formats.

Results: Findings showed weekly mean temperature and cumulative rainfall preceded higher relative risk of dengue by 9-16 weeks and that a forecast with at least 3 months would provide sufficient time for mitigation in Singapore. Results showed possibility of predicting dengue cases 1-16 weeks using temperature and rainfall; whereas, consideration of autoregression and trend further enhance forecast precision. Sensitivity analysis showed the forecasting models could detect outbreak and non-outbreak at above 90% with less than 20% false positive. Forecasts were translated into stratified dengue risk indices using color codes and indices ranging from 1-10 in calendar or time sequence formats. Simplified risk indices interpreted forecast according to annual alert and outbreak thresholds; thus, provided uniform interpretation.

Significance: A prediction model was developed that forecasted a prognosis of dengue up to 16 weeks in advance with sufficient accuracy. Such a prognosis can be used as an early warning to enhance evidence-based decision making and effective use of public health resources as well as improved effectiveness of dengue surveillance and control. Simple and clear dengue risk indices improve communications to stakeholders.

Kristina Edvardsson



Health promotion in pregnancy and early parenthood. The challenge of innovation, implementation and change within the Salut Programme

Thesis defended: 31 May, 2013
Supervisors: Anneli Ivarsson, Rickard Garvare, Monica Nyström, Eva Eurenius
Opponent: Docent Rolf Wahlström, Karolinska Institutet, Stockholm

Background: In 2005, the Västerbotten County Council launched a child health promotion programme, "the Salut Programme", in response to an alarming prevalence of overweight and obesity, and trends of increased dental caries, among young county citizens. The programme, initially developed in four pilot areas, is built on multidisciplinary and cross-sectoral collaboration and aims to support and strengthen health promotion activities in health care, social services and school settings. It targets children and adolescents (0-18 years of age) and their parents, and starts during pregnancy. This thesis focuses on interventions provided by antenatal care, child health care, dental services, and open pre-schools, directed to expectant parents and families with children aged 0-1 ½ years. Within the programme context, the aim was to explore socio-demographic patterns of overweight and obesity in expectant parents (Paper I), firsttime parents' experiences of health promotion and lifestyle change during pregnancy and early parenthood (Paper II), professionals' experiences of factors influencing programme implementation and sustainability (Paper III and IV), and early programme outcomes on professionals' health promotion practices and collaboration following countywide dissemination and implementation (Paper IV).

Methods and results: A population based cross-sectional study among expectant parents showed overweight and obesity in 29% of women (pre-pregnancy) and in 53% of men (n=4,352♀, 3,949♂). The likelihood for obesity was higher in expectant parents with lower levels of education, among those unemployed or on sick leave, and those living in rural areas. In 62% of couples, at least one of the partners was overweight or obese; a positive partner correlation was also found for BMI (I). An interview study with 24 first-time parents (n=12♀, 12♂) revealed that they primarily undertook lifestyle changes to secure the health of the fetus in pregnancy, and to provide a healthy environment in childhood. Parents described themselves as highly receptive to information about how their lifestyle could influence fetal health, and they frequently discussed pregnancy risks related to tobacco and alcohol, as well as toxins and infectious agents in foods. However, parents did not seem inclined to make lifestyle changes primarily to promote their own health. The antenatal and child health care services were perceived as being mainly directed towards women, and parents described a lack of a holistic view of the family which included experiences of fathers being treated as less important (II). An interview study undertaken with professionals (n=23) in the Salut Programme pilot areas indicated programme sustainability at most sites, two years after implementation, although less adherence was described within child health care. Factors influencing programme sustainability, as described by professionals, were identified at multiple organisational levels (III). A before-and-after survey among professionals (n=144) measured outcomes of the county-wide implementation of the Salut Programme in 13 out of 15 county municipalities. Results showed significant improvements in professionals' health promotion practices and collaboration across sectors. A number of important implementation facilitators and barriers, acting at different organizational levels, were also identified via a survey comprised of open-ended questions (IV).

Conclusion: The Salut Programme, developed with high involvement of professionals, and strongly integrated in existing organisational structures and practices, shows potential for improving health promotion practices and cross-sectoral collaboration. The findings can inform further development of the Salut Programme.as well as new health promotion initiatives, and inform policy practice and future research. These aspects include approaches in health promotion and prevention, father involvement during pregnancy and early parenthood, and factors influencing implementation and sustainability of cross-sectoral health promotion programmes.

Kristina Lindvall

"Being able to be stable". Exploring primary weight maintenance is a public health strategy for obesity prevention

Thesis defended: 20 September, 2013
Supervisors: Lars Weinehall, Maria Emmelin, Christel Larsson, Paul Jenkins
Opponent: Professor Mai-Lis Hellenius, Karolinska Institutet, Stockholm

Background Overweight and obesity are considerable public health issues internationally as well as in Sweden. On a global level, the obesity prevalence has nearly doubled over the last 30 years. Currently in Sweden, more than one third of all women, and slightly more than half of all men, are either overweight or obese. The long-term results of obesity treatment programs are modest as reported by other studies. The importance of extending the focus to not only obesity treatment, but also prevention of weight gain, has therefore been emphasized.

Aim The overall aim of this thesis is to explore the concept of primary weight maintenance (PWM) and to increase the knowledge of the attitudes, behaviours, strategies and surrounding circumstances that are important for PWM in a Swedish middle-aged population.

Material and methods All study participants were recruited based on their previous participation in a health survey in their home setting; The Västerbotten Intervention Programme (VIP) in Västerbotten Sweden (paperI-IV), or the Upstate Health and Wellness Study in Upstate New York (IV), USA. All subjects had participated twice, with a time period of ten years between health surveys. The prevalence of obesity between the years 1990-2004 was calculated for VIP participants (paper I). Ten-year non-gain (lost weight or maintained body weight within 3% of baseline weight) or weightgain (≥3%) was calculated for individuals aged 30, 40, or 50 years at baseline. A multivariate logistic regression model was built to predict weight non-gain. In-depth interviews were conducted with 23 maintainers and four slight gainers in Sweden and analysed using Grounded Theory (paper II). A questionnaire study was conducted including 2138 Swedish and 2134 US participants (paper III and IV). Analysis of variance (ANOVA), correlation, and linear regression were performed to identify attitudes, strategies, and behaviours that are predictive of PWM in different age, sex and BMI subgroups in Sweden (paper III). Further, the pattern of ten-year weightchange (% and kg) in 1999-2009 was calculated for Swedish and US women within different subgroups (paper IV). ANOVA, correlation and chi-squaretests were conducted to contrast eating and exercise habits between the two countries that may explain the differences in weight change.

Results The prevalence of obesity (BMI ≥30) in Västerbotten increased from 9.4% in 1990 to 17.5% in 2004 (I). Older age, being female, being overweight at baseline, later survey year, baseline diagnosis of diabetes, and lack of snuff use increased the chances of not gaining weight. Based on the in-depth interviews, describing attitudes, behaviours and strategies of importance for PWM, a model was constructed (II). Weight maintenance was characterized as “a tightrope walk” and four strategies of significance for PWM were described as “to rely on heritage”, “to find the joy”, “to find the routine” and “to be in control”. The questionnaire study aimed at identifying predictors of PWM in different age, sex and BMI groups (III). The pattern of significant predictors was widely disparate between different subgroups. Of 166 predictors tested, 152 (91.6%) were predictive of PWM in at least one subgroup. However, only 4.6% of these were significant in half of the subgroups or more. The mean percent weight changes (in all cases weightgain), between 1999-2009 for Swedish and US women, were 4.9% (SD=5.8) and 9.1% (SD=13.7) respectively (p for t-test<0.001) (IV). For the US women, the largest weight change occurred among the 30 year olds for all three BMI strata. For the Swedish, it was seen among overweight and obese 30 year old women. The largest difference in ten-year weight change between the two countries for any two matched subgroups was seen in normal weight 30 year olds. Significantly more of the women in this Swedish subgroup stated having more of healthy behaviours. However, there was a tendency for unhealthy behaviours to be strongly associated with greater weight gain in the US, but much less so in Sweden.

Conclusion: Younger individuals, those of normal body weight, and those without health conditions (e.g. diabetes type 2) and cardiovascular riskfactors – were the least likely to maintain their weight over the 10 year period (I). Educational efforts on the prevention of overweight and obesity should therefore be broadened to include those individuals. The in-depth interview study showed great variety with regard to attitudes, strategies and behaviours important for PWM (II). The results from this study informs health personnel about the need to tailor advice related to body weight, not only to different sub-groups of individuals trying to lose weight but also to subgroups of primary weight maintainers who are trying to maintain weight. This statement was also supported by the questionnaire data, where the large disparity in the pattern of significant variables between subgroups suggests that these interventions should be tailored to the person's demographic (age,sex and BMI) (III). Paper IV showed that even though the prevalence of obesity among Swedish women has increased substantially during these ten years, it has not kept pace with the increase in the US. One explanation for this may be that normal 30 year old Swedish women have more healthy behaviours than do US women. However, the insensitivity of the Swedish women to weight gain for healthy versus unhealthy alternatives may also be a factor. If the exact reason behind this phenomenon can be identified this may contribute to a deeper understanding of PWM both in Sweden and the US.

Anand Krishnan

Gender inequity in child survival: Travails of the girl child in rural north India

Thesis defended: 11 October, 2013
Supervisors: Peter Byass and Nawi Ng
Opponent: Professor Per Ashorn, Tampere Center for Child Health Research, University of Tampere, Finland

Background: While substantial progress has been made globally towards achieving United Nations Millennium Development Goal 4 (MDG 4) on child mortality, the decline is not sufficient to reach the targets set for 2015. The South Asian region, which includes India, was to achieve the MDG 4 target of 39 deaths per 1000 live births by 2015 but was estimated to have reached only 61 by 2011. A part of this under-achievement is due to the gender-differentials in child mortality in South-Asia. The inherent biological advantage of girls, reflected in lower mortality rates as compared to boys globally, is neutralized by their sociocultural disadvantage in India. The availability of technology for prenatal sex determination has promoted sex-linked abortions. Current government efforts include a law that regulates the use of ultrasound and other diagnostic techniques for prenatal testing of sex and a conditional cash transfer (CCT) scheme that invests a certain amount of funds at the birth of a girl child to attain maturity when the girl turns 18 years of age. This thesis describes the trends in gender specific mortality during the period 1992-2011 and gender differentials in causes of death among children (paper I), compares gender differentials in child survival by socio-economic status of the family (paper II), explores the contribution of non-specific effects of diphtheria-tetanus-pertussis (DTP) vaccination to the excess mortality among girls (paper III), and evaluates the impact of CCT schemes of the government and explores community attitudes and practices related to discrimination of girls (paper IV).

Methods and Results: This study is set in Ballabgarh Health and Demographic Surveillance System (HDSS) of Haryana State in North India that covered a population of 88,861 across 28 villages in 2011. This study uses the electronic database that houses all individuals enumerated in the HDSS for the period 1992-2011 along with other demographic, socio-economic and health utilization variables. Sex ratio at birth (SRB) was adverse for girls throughout the study period, varying between 821 to 866 girls per 1000 boys. Overall, under-five mortality rates during the period 1992-2011 remained stagnant due to the increasing neonatal mortality rate and decreasing mortality in subsequent age groups. Mortality rates among girls were 1.6 to 2 times higher than boys during the post-neonatal period (1-11 months) as well as in the 1-4 year age group. Girls reported significantly higher mortality rates due to prematurity (relative risk of 1.52; 95% CI = 1.01-2.29); diarrhoea (2.29;1.59-3.29), and malnutrition (3.37; 2.05-5.53) during 2002-2007. The SRB and neonatal mortality rate were consistently adverse for girls in the advantaged groups. In the 1-36 month age group, girl children had higher mortality than boys in all SES groups. The age at vaccination for and coverage with Bacillus Calmette–Guérin, DTP, polio and measles vaccines did not differ by sex. There was significant excess mortality among

girls as compared to boys in the period after immunization with DTP, for both primary (hazard ratio of 1.65; 95% CI 1.17-2.32) and DTPb (2.21; 1.24-3.93) vaccinations until the receipt of the next vaccine. No significant excess mortality among girls was noted after exposure to BCG (1.06; 0.67-1.67) or measles (1.34; 0.85-2.12) vaccine. A community survey showed poor awareness of specific government schemes for girl children. Four-fifths of the community wanted government to help families with girl children financially. In-depth interviews of government programme implementers revealed the themes of "conspiracy of silence" that was being maintained by general population, underplaying of the pervasiveness of the problem coupled with a passive implementation of the programme and "a clash between politicians trying to cash in on the public sentiment of need for subsidies for girl children and a bureaucratic approach of accountability which imposed lot of conditionalities and documentations to access these benefits". While there has been some improvement in investment in girl children for immunization and education during the period 1992 to 2010, these were also seen among boys of the same houses and daughters in-laws who come from outside the state where such schemes are not in place.

Conclusions: In the study area, girl children continue to be disadvantaged a tall periods in their childhood including in utero. In the short run, empowerment of individuals by education and increasing wealth without a concomitant change in culture of son-preference is harmful as it promotes the use of sex determination technology and female feticide to achieve desired family size and composition. There is a need to carefully review the use of health-enhancing technologies including vaccines so that they do not cause more harm to society. Current government efforts to address the gender imbalance are not working, as these are not rooted in a larger social context.

Siddhivinayak Hirve

"In General, how do you feel today?" Self-rated health in the context of aging in India

Thesis defended: 25 October, 2013
Supervisors: Nawi Ng, Stig Wall, Yulia Blomstedt, Stephen Tollman
Opponent: Professor S. V. Subramanian, Department of Social and Behavioral Sciences, Harvard School of Public Health, Boston, USA

Background Most aging research comes from the developed world. Aging research in India is focused on disease states and risk factors. Evidence on elderly health, physical performance and disability to understand the psycho-social or socio-behavioral risk is limited in India. Self-rated health (SRH) is used often in survey settings to quickly assess health status and is known to predict morbidity and mortality. The first wave of the Study on global AGEing and adult health (SAGE) survey provides an opportunity to explore the complex construct of SRH in the context of the aging process in its various key life domains of health, disability, cognition, activities of daily life, work, family, security and well-being in low and middle income settings.

Objectives This research aims to (a) understand pathways through which the social environment, functional disability, health behaviour and chronic disease experience influence SRH, (b) examine the role of SRH in predicting mortality, (c) validate SRH to improve its interpersonal comparability, and (d) assess how well estimates of SRH derived directly from a 'small area' survey compare with 'small area' estimates derived indirectly from a 'large area' survey.

Methods The Vadu Health and Demographic Surveillance System (HDSS) monitor health and demographic trends in a rural population of more than 100 000 in 22 villages in India since 2002. The full and short version of the SAGE survey was implemented in Vadu in 2007-09 among 321 and 5432 individuals aged 50 years and above, respectively. A structural equation model tested pathways through which social and biological factors influenced SRH. A Cox proportional hazard model examined the role of SRH as a predictor for mortality. Anchoring vignettes were used to evaluate SRH for reporting heterogeneity. The Hierarchical Ordered Probit model adjusted SRH for reporting heterogeneity. The SRH prevalence estimates for Vadu derived indirectly (indirect synthetic estimate, empirical Bayes estimate, Hierarchical Bayes estimate) from the national SAGE survey were compared with estimates derived directly from the Vadu SAGE survey, using different design and model-based techniques.

Results Older individuals reported poor SRH compared to those younger. Women rated their quality of life and SRH poorer than men. The effect of age on SRH was mediated through functional disability. Higher socioeconomic status and higher quality of life was in turn associated with better SRH but this relationship lacked statistical significance. Smoking or consumption of tobacco was associated with at least one chronic illness which in turn was associated with poor SRH and quality of life. However the association between chronic illness and SRH and quality of life was not statistically significant. Mortality risk was higher among individuals who reported bad/very bad SRH, disability and lack of spousal support independent of age and sex. There was strong evidence of reporting heterogeneity in SRH that was influenced by age, sex, education and socioeconomic status. The prevalence of 'good / very good' SRH was estimated to be 50%. This direct survey estimate compared well with the prevalence estimate of about 45% derived indirectly from model-based small area estimation methods. The indirect synthetic estimate for Vadu (23.2%) was a poor approximation to the direct survey or modelbased estimate.

Conclusion This research establishes the value and utility of SRH as a simple measure of health and predictor of mortality in an aging context. It provides evidence to formulate programs and policies towards an enabling social environment and an ability to function in key life domains of health and well-being. It highlights the need to identify and adjust self-rated responses for interpersonal incomparability prior to making comparisons across individuals or groups of individuals. It highlights the potential of using information from large national surveys by district level managers for planning and evaluation of policies and programs at the district or sub-district level. Finally, this research provides the basis for integrating SRH and related questions into routine HDSS.

Katrina Nordyke

Mass screening for celiac disease. A public health intervention from the participant perspective

Thesis defended: 15 November, 2013
Supervisors: Anneli Ivarsson, Maria Emmelin, Lars Lindholm
Opponent: Professor David Grossman, University of Washington, Department of Health Services, Seattle, Washington, USA

Background Celiac disease (CD) is a chronic disorder in genetically predisposed individuals in which damage to the small intestine is caused by eating foods containing gluten. The prevalence has been shown to vary from around 1-3%, but most people with CD are undiagnosed. An option for finding those with unrecognized CD would include screening the general population, i.e., mass screening. However, screening identifies a pre-disease or disease condition in people who are presumed healthy and have not sought help. Therefore, the impacts of the screening process and being diagnosed through screening should be explored before such a public health intervention is considered. A population-based CD screening study involving 12-year-olds was undertaken in Sweden and provided an opportunity to explore these issues related to CD screening.

Aims To make inferences about the potential impacts mass screening for CD can have on participants by exploring experiences and outcomes for participants involved in CD screening study.

Methods and Subjects Both qualitative (short written narratives) and quantitative (questionnaires with EQ-5D instrument) methods were used. Children who participated in the CD screening study were invited to write narratives at the time of the screening, before screening results were known, describing their experience with the screening (n=240). The EQ-5D instrument was used to measure and compare health-related quality of life reported by participants at the time of the screening and one year after the screening-detected participants received their diagnosis (screening-detected n=103, referents n=483). Those with screening-detected CD were also invited to write narratives one and five years after their diagnosis. In these narratives the adolescents described how it felt to be diagnosed with CD, how it felt to live with CD, and if they thought all children should be screened (one-year follow-up n=91, five-year follow-up n=72).

Results Even though some children experienced fear and anxiety during the screening, overall they had, or were provided with, tools that allowed them to cope well with the screening. The health-related quality of life reported by those with screening-detected CD was similar before and one year after diagnosis (and similar to that of the referents). We also found that after five years of living with the diagnosis there had been maintenance and evolution in the beliefs and practices of these adolescents.

Being detected through screening and the threat of complications impacted how they felt about the diagnosis, coped with the gluten-free diet, and what they thought about CD screening. Five years after the screening-detected diagnosis the adolescents have adjusted to the disease and adapted new habits and coping strategies to deal with the gluten-free diet. However, there are still those who doubt the accuracy and benefit of the diagnosis.

Conclusions Our findings suggest that it is possible for participants to avoid excess anxiety during CD screening. However, there was not consensus among participants that being detected and treated had improved their health-related quality of life or that the immediate benefits outweighed the harm caused by being detected in this way. When considering mass screening, the affect on the participants is important to take into account and our findings shed light on some of the potential impacts a CD mass screening could have on participants.

Ellie Nur Hayati

Domestic violence against women in rural Indonesia. Searching for multilevel prevention

Thesis defended: 6 December, 2013
Supervisors: Maria Emmelin, Malin Eriksson, Ulf Högberg and Mohammad Hakimi
Opponent: Professor Gunilla Krantz. The Sahlgrenska Academy, University of Gothenburg

Background: Domestic violence has been recognized globally as one of the most important Public Health concerns with severe negative health consequences for the exposed women. Through UN bodies several international milestones have successfully pushed attention towards worldwide improvements in the life situations of women. Since the ratification of the Convention on Elimination of All Forms of Discrimination against Women (CEDAW) in 1984, significant positive changes towards equality between men and women in Indonesia have been initiated, one being the enactment of the Domestic Violence Act in 2004. However, there is still a need to improve the knowledge about what preventive measures that are feasible and work in different settings. This thesis aims to contribute to a better understanding of appropriate prevention strategies against domestic violence in rural Indonesia by exploring: i) risk factors for domestic violence; ii) women's ways of coping with exposure to violence; iii) men's views on masculinity and violence within marriage; and iv) challenges faced by local service agency in managing services for women survivors of domestic violence.

Methods: Data from a cross sectional population based study was used to analyze risk factors for physical and sexual abuse among a cohort of pregnant women in Purworejo district. Further, a qualitative phenomenological interview study was conducted to reveal the dynamics of coping among women survivors of domestic violence in the same district. A Grounded Theory study based on focus group discussions with men formed the basis for a situational analysis of the linkage between masculinity and the use of violence within marriage. Finally, a qualitative case study was performed to explore the management practices of a local service agency in the district, to understand the challenges faced in their efforts to address domestic violence.

Results: Sexual violence was associated with husbands' demographic characteristics (age and low educated) and women's economic independence. Exposure to physical violence among women was strongly associated with husbands' personal characteristics. The attitudes and norms expressed by women confirmed unequal gender relationships. Experiencing violence led women to using an elastic band coping strategy, moving between actively opposing the violence and surrendering or tolerating the situation. The national gender equality policies were shown to have played a crucial role in transforming gender power relations among men and women (the gender order) in the Indonesian society. Three different positions of masculinity were identified, the traditionalist, the egalitarian, and the progressive, with different beliefs about men's role within marriage and with various levels of accepting the use of violence. Long term structural preventive efforts and individual interventions targeted to the conflicting couples were preferred over reporting the abuser to the authorities. The major challenges faced by the local service agency were the low priority given by the authorities, mirrored also in low involvement in the daily service by the assigned volunteers. The local agency also

stammered in translating the current law and policies into a society that held on to traditional and religious norms regulating the relationships between men and women.

Conclusion: Overall, this thesis illustrates that sociocultural traditions and religious teaching still viscously influence people's attitudes and beliefs about the use of violence within relationships. Domestic violence has not been accepted as a criminal act but is still to a large extent seen as a private family affair. Culturally sensitive programs aimed to bridging the gap between the current laws and policies and the socio-cultural traditions need to be further developed to protect women from domestic violence and increase gender equity in the Indonesian setting.

Table 4. PhD students registered at the unit 2013.

Name	Background	Thesis subject
Osama Ahmed	Veterinary	Epidemiology and impact of Rift Valley fever outbreaks in Sudan using a one health approach
Monika Appel	Sociologist	Creative competition or hampering hierarchy-a study concerning the academic working environment focusing on the doctoral student
Juan Cordoba	MD, MPH	Economic crisis and health inequalities in Spain and Andalusia
Jennifer Crowe	BSc biology, MPH	Exposure to extreme heat in sugarcane harvesters in the face of climate change
Kristina Edvardsson	Nurse *(Dissertation 2013)*	Child health promotion and surveillance. The challenge of innovation, implementation and change
Thaddaeus Egondi	MSc in biostat	Assessing exposure to urban outdoor air pollution and associated mortality in Nairobi, Kenya
Setareh Forouzan	MD	The mental health care system responsiveness in Iran
Maria Furberg	MD	Climate change related aspects of health in northern Sweden
Nitin Gangane	MD	Breast cancer scenario in India: Knowledge, attitude, practices, delay in presentation and management, post treatment quality of life and self-coping
Hendrew Gekawaky	Nurse	Masculinity and HIV prevention in Dr Congo
Tesfay Gebrehiwet	BSc Public Health, MPH	Improving the utilization of maternal health care in health extension program context in Tigray region, Ethiopia
Yegomawork Gossaye	Nurse	Women's health, domestic violence and its association to adverse mental health and child survival in Ethiopia
Lena Granlund	MD	D-vitaminbrist i Norra Sverige. En epidemiologisk studie av svenska och immigrerande populationer på latitud 63-7 grader Nord
Mats Granvik	Health planner	Befolkningen och hälso- och sjukvården – om psykosociala problem, prevention, somatisering och medikalisering
Jonas Hansson	Police, fil mag behavioural sci.	Psychosocial job characteristics, coping and mental health among Swedish police officers in relation to deportation work of unaccompanied children
Elli Nur Hayati	Psychologist *(Dissertation 2013)*	Domestic violence in urban and rural Indonesia: Women´s experiences and men´s roles for prevention
Christina Hedlund	MD	Epidemiology and Surveillance of Climate sensitive Infectious Diseases in the Circumpolar area
Jing Helmersson	PhD Atomic Physics & Laser Spectr., MPH	The development of a dynamic epidemiological weather driven model.
Alison Hernandez	Nurse	Health service delivery in rural Guatemala: Supporting the performance of auxiliary nurses
Yien Ling Hii	Nurse *(Dissertation 2013)*	Climate index as an early warning for dengue prevention and control
Siddhivinayak Hirve	BSc Medicine, MPH *(Dissertation 2013)*	Integrating aging research in demographic surveillance are as- The Vadu HDSS experience in rural district of western India
Kerstin Hultén	Nutritionist	Breast cancer and dietary habits – an epidemiologic study of protective factors
Elisabet Höög	MA occup. psychology	Implementation challenges in health and social care organizations: Seeking obstacles, finding opportunities

Name	Background	Thesis subject
Vijendra Ingole	MSc	A study of weather effects, susceptibilities and potential impacts of climate change on mortality in Vadu HDSS, India
Shabbir Ismail Abbas	MD, Community Health	Epidemiology of HIV/AIDS and high risk sexual behaviours among populations of Central Ethiopia
Junia Joffer	BSc Social Science, MPH	Self-rated health in adolescence – Experiences of and predictors for good health
Robert Jonzon	Nurse, MPH	Health examinations of asylum seekers within the Swedish health care system
Faustine Kalengayi	MD (Dissertation 2013)	A world on the move: Challenges and opportunities for HIV/AIDS/TB Prevention and care for immigrants from countries in sub-Sahara Africa
Kateryna Karhina	MPH	The role of social capital and gender for mental health. Comparative studies between Sweden and Ukraine
Therese Kardakis	MSc Business & Economics, MPH	Strengthening health promotion in health care – the organizational change challenge
Alireza Khatami	MD	Development and validation of a disease-specific instrument for evaluation of quality of life in adult Iranian patients with acute old world cutaneous leishmaniasis
Vu Duy Kien	MD, MPH	Inequalities in chronic non-communicable diseases in urban Vietnam: Patterns, social determinants and health system responses
Anand Krishnan	MD *(Dissertation 2013)*	Gender inequity in child survival: Travails of a girl child in rural North India
Viveca Larsson	Anthropology	"A suffering heart". On the health of women living with violence in Vietnam
Utami Puji Lestari	Nurse	Risk factor of type 2 diabetes and their trends in Purworejo district, Indonesia
Kristina Lindvall	Dietician *(Dissertation 2013)*	Those who are able to be stable – Primary weight maintenance as a public health strategy for obesity prevention
Lubin Lobo	MA theology	The right to health of asylum seekers in Sweden
Emil Löfroth	Economist	Vem ska få behandling? Ekonomiska, etiska och epidemiologiska aspekter på fördelningen av resurser för att förebygga hjärt-kärlsjukdom
Curt Löfgren	Fil kand	Protecting vulnerable groups from catastrophic health care expenditure. The case of Vietnam
Amaia Maquibar Landa	Nurse, MSc Public health	Exploring intimate partner violence in the Basque country: a focus on young people and institutions
Paul Mee	MSc Epidemiology	Analysis of the effectiveness of a community health clinic via analysis of population level measures of mortality and morbidity
Paola Mosquera Mondez	MA soc policy	Learning from the experiences of comprehensive primary health care: Case Bogotá, Colombia
Kanyiva Muindi	MSc in Epidemiology and biostatistics	Indoor air pollution and adverse pregnancy outcomes in Kenya
Fredinah Namatovu	MA health and society	Exploring the multifactorial etiology of childhood celiac disease combining national registers
Anne Neumann	Master of Med Sc	Prevention of Type 2 Diabetes Mellitus: modeling the cost-effectiveness of diabetes prevention
Per Nordin	Statistician	Kontaktgrad och vårdkonsumtion, en alternativ ansats för att belysa behov av sjukvård

Name	Background	Thesis subject
Katrina Nordyke	Nurse, MPH *(Dissertation 2013)*	Mass screening for celiac disease. A public health intervention from the perspectives of participants and society
Hassen Nuru	MD	Health care financing reform in Addis Ababa public sector: Does it have any implication on health resources availability
Trang Phan Minh	MD, MPH	Weather and weather extremes in association to mental health among adults in Vietnam
Firdy Permana	MD	Environmental tobacco smoke exposure (ETS): children's respiratory effects and the strategy to reduce domestic exposure
Tej Ram Jat	MSc health policy	Maternal health and emergency obstetric care in Madhya Pradesh state of India: A case study of Khargoue district
Eva Randell	MA social work	Tonårspojkars hälsa och självbild
Bharat Randive	BSc of Ayurvedic Med & Surg; Masters (Sociology)	Study of conditional cash transfer programme for promotion of institutional births in India: Studies from selected provinces of India
Ailiana Santosa	MD, MPH	Towards a better understanding of epidemiological transition, based on Sweden´s experience
Maquines Sewe	MSc Medical Statistics	Developing and evaluating M-health weather based malaria early warning system to reduce under five mortality in KEMRI/CDC HDSS, Kenya
Melissa Scribani	BS in Biology, MPH	Consequences of obesity and determinants of weight maintenance: a study of adult populations in rural New York State and Västerbotten County, moving towards an intervention to stem the tide of the obesity epidemic
Linda Sundberg	Psychologist	Development and implementation of national clinical guidelines in Swedish healthcare. The challenge to transform new knowledge to clinical practice
Johanna Sundqvist	Social worker	Psychosocial job characteristics, coping and mental health of social workers in relation to the repatriation of unaccompanied children
Fatwa Sari Tetra Dewi	MD *(Dissertation 2013)*	Tobacco control activities in southern area of Java
Moses Tetui	Sociologist, MPH	Participatory approaches to program design and implementation: lessons from a maternal health program in Eastern Uganda.
Nguyen Thi Bic Thuan	Economist	The burden of health care expenditure on households in a rural district of Vietnam
Huong Thu Nguyen	MD	Birth weight and growth during the first two years of life: a study in urban and rural Vietnam
Masoud Vaezghasemi	MSc Publ health and epidemiology	The emergence of dual burden of malnutrition in Indonesia: The role of gender and social capital.
Maj Lis Voss	Economist	Assessing pre-adolescent well-being in low income and high income countries
Ryan Wagner	MSc	The economics of epilepsy: Modelling cost-effective interventions for the treatment of epilepsy in sub-Saharan Africa
Joseph Zulu	MSc in Social and cultural anthropology	Integrating community health workers (CHWs into the health system and NIV/AIDS interventions in Zambia

Publications

Original articles 2013

Adam-Poupart A, Labreche F, Smargiassi A, Duguay P, Busque M, Gagne C, Rintamaki H, **Kjellström T**, Zayed J. Climate Change and Occupational Health and Safety in a Temperate Climate: Potential Impacts and Research Priorities in Quebec, Canada. *Industrial Health* 2013;51(1):68-78.

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