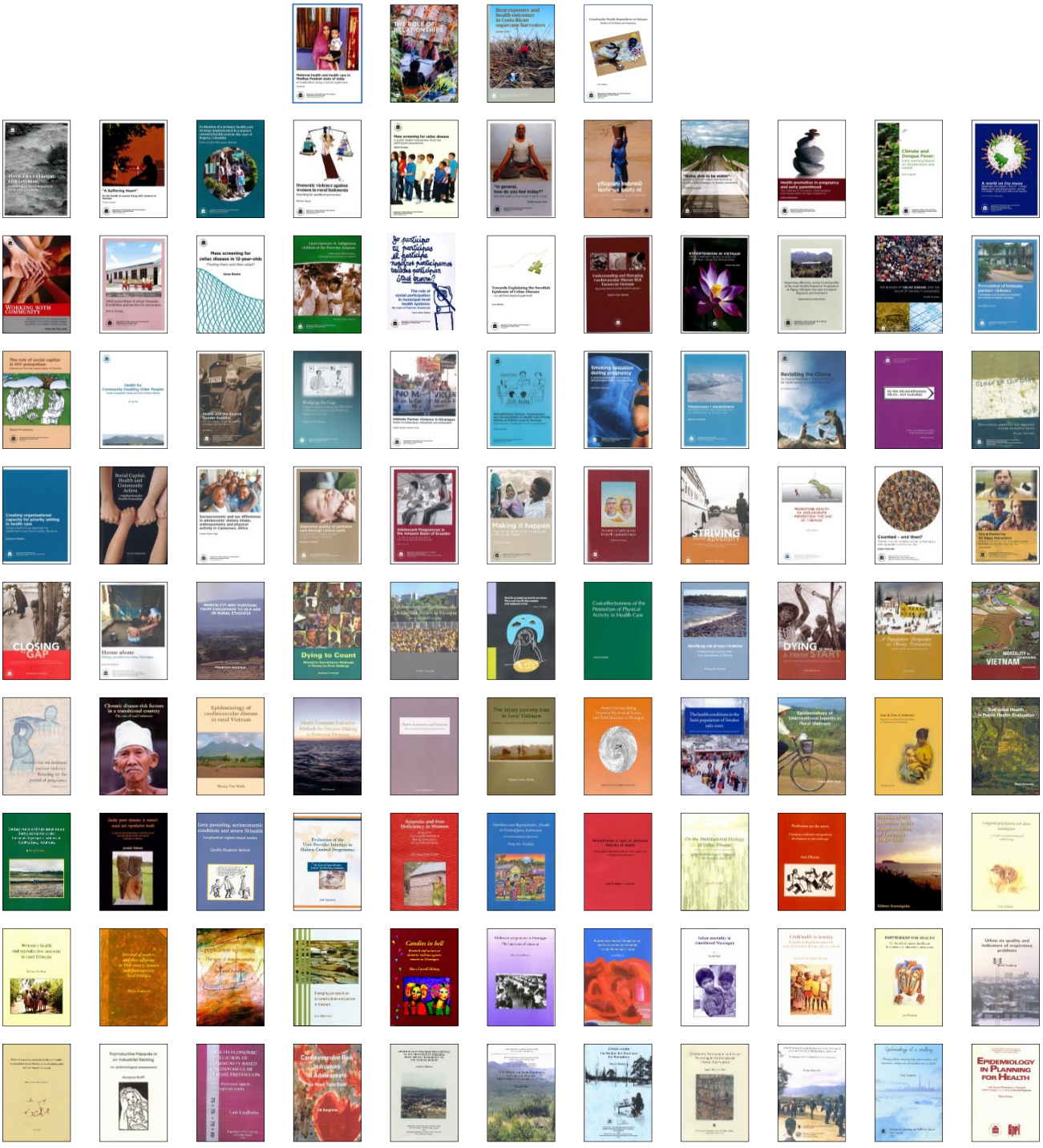

Annual Report 2014

Department of Public Health and Clinical Medicine

Umeå International School of Public Health

Epidemiology and Global Health

Annual Report 2014

UMEÅ CENTRE FOR GLOBAL HEALTH RESEARCH

Umeå International School of Public Health

Epidemiology and Global Health

Printed by Print & Media, Umeå, Sweden 2015

Prologue

To all staff, collaborators and other colleagues,

Our Unit, Epidemiology and Global Health, continues to develop successfully thanks to the skillful and enthusiastic efforts of all staff members and our students from different parts of the globe. Key for our success is collaboration within academia in Sweden and elsewhere, and increasingly with other bodies in society.

We want to remind of our "Vison-Mission-Value Statement" guiding our efforts:

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

This autumn we had our 100th PhD graduation! We have labelled the celebration "*1 meter of knowledge*", but when we pile up all the books it is actually 1.1 meters! More importantly, when mapping our alumni, it becomes evident that the knowledge gained now is contributing to equitable and sustainable improvements in health and welfare across the globe, as we envisage in our Vision statement.

A key recent achievement is the Manifesto - *From public to planetary health* – that calls for a social movement with action at all levels of society for a planet that nourishes and sustains the diversity of life with which we coexist and on which we depend. The Manifesto was published in *The Lancet* and, through their webpage, has received more than 7000 signatures. Importantly, a few days ago our Vice-Chancellor Lena Gustafsson decided to sign on behalf of Umeå University.

Face-to-face meetings are important for developing trusting collaborations, however, once collaborations are established, such meetings can sometimes be replaced by web-tele-meetings or conferences. We urgently need to reduce our carbon footprint, and such distant meetings should always be considered instead of travels, when possible. We have joined the *Lync-communication-system*, and encourage everyone to fully explore and take advantage of its possibilities.

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 and Umeå International School of Public Health, the latter comprising the Master Programs of Public Health and the Swedish Research School for Global Health. Our Unit is larger than many of Umeå University's Departments.

The "Annual Report Group" for 2014 has been Lena Mustonen, Yulia Blomstedt, and Kjerstin Dahlblom. Thank you for your terrific work!

We are moving confidently into 2015
and are grateful that you all are on board together with us!

Anneli Ivarsson
Head of Unit

Klasse Sahlén
Deputy Head

Anna-Karin Hurtig
Deputy Head

Content

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Some words about Umeå

Here are some words that capture what has caught my attention in these first days in Umeå and Sweden and then a brief elaboration

- Design for activity
- Prop people
- Gender inclusion
- Quirky and bureaucracy free
- Friendless gloves

Design for activity - the elaborate and welcoming cycle and pedestrian routes inspire me completely, I am amazed to notice large numbers of people of all ages and shapes using bicycles to get around - carbonfree travel...., and everyone walks fast - maybe its the only way to stay warm!

Pro-people - everywhere I see signs that this community and place is welcoming to the 'other' - I notice people with disabilities in public places, hear about flexi-working hours and I notice that even in an academic department people use first names, share in the coffee room duty and make a point to greet each other - and then the wonderful institution of Fiker says we think communication matters.

Gender inclusion - I notice men walking children in push-chairs during office hours, many women in leadership and decision making positions, and in public spaces women and men equally represented. I wonder about representation of women on corporate boards...

Quirky and bureaucracy-free - a woman with a bright-eyed terrier dog tucked under her arm was travelling on the flight with me 'No, there are no rules against it!' Paying rent, getting a SIM card - all 5 minute events... Amazing to someone living in India - the land of petty bureaucrats

Friendless gloves -- I have seen at least 20 or more single gloves or mittens lying wet and dirty on the streets and footpaths - is this an unexplored business opportunity for penniless PhD students in the Department?

Kaaren Mathias, New Zealand & India
PhD student at Epidemiology and Global Health

Fernström Prize for public health research in low- and middle-income countries

The Fernström Committee at the Faculty of Medicine, Umeå University, has awarded the Swedish Erik K. Fernström prize for 2014 to Nawi Ng. The award, named after the shipowner Erik K. Fernström, is dedicated annually to six "young and promising scientists in medicine". Each of the awardees is faculty member in one of the six medical faculties in Sweden. The Faculty of Medicine at Lund University manages the award.

Dr. Ng earned his doctorate in 2006 at Umeå University, became Associate Professor of Epidemiology and Global Health in 2011 and continues to work as a lecturer in that field at the Department of Public Health and Clinical Medicine, Umeå University. He worked as a lecturer and researcher in the Faculty of Medicine, Gadjah Mada University, Indonesia since 1999 until he moved to Sweden in 2007.

Nawi Ng has conducted his research in the field of epidemiology and global health, with research on chronic diseases in low- and middle-income countries, particularly on risk factors for chronic diseases, such as smoking, physical inactivity, hypertension, and obesity. These are particular problems in Indonesian populations, where he contributed significantly to the development of a field laboratory for the population study of chronic diseases, later expanding his work to other research sites in Asia within the international network INDEPTH. He also conducts research on health and wellbeing of older adults in Africa and Asia, as well as in Sweden. He combines strong methodological and research skills with clinical knowledge and understanding of health-related issues.

Dr. Ng leads the Epidemiological Transition research theme at the Umeå Centre for Global Health Research. He teaches epidemiology courses in the master program on Public Health in Umeå University. He is also supervisor for a number of international graduate students and postdoctoral researchers in the field of global health. Since 2015, he serves as the Chief Editor of Global Health Action, an open-access and leading peer-review journal in the field of global health.

His award was marked at Umeå University's annual academic ceremony on October 18th, 2014. The Fernström prize-giving ceremony took place on November 5th, 2014 at Lund University.

Dr. Nawi Ng with family and Prof. Stig Wall, Prof. Maria Emmelin, and Prof. Lars Weinehall in Lund University

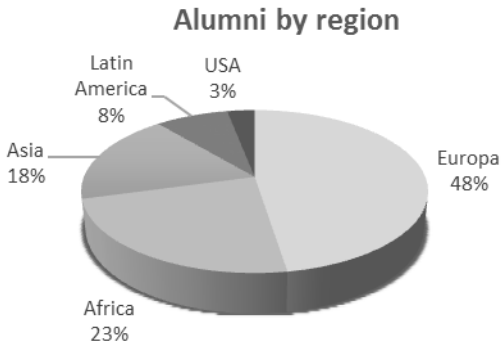
Nawi Ng received the prize from Umeå University Vice Chancellor, Lena Gustafsson.

A wealth of knowledge - Epidemiology and Global Health celebrates its 100th PhD Alumni

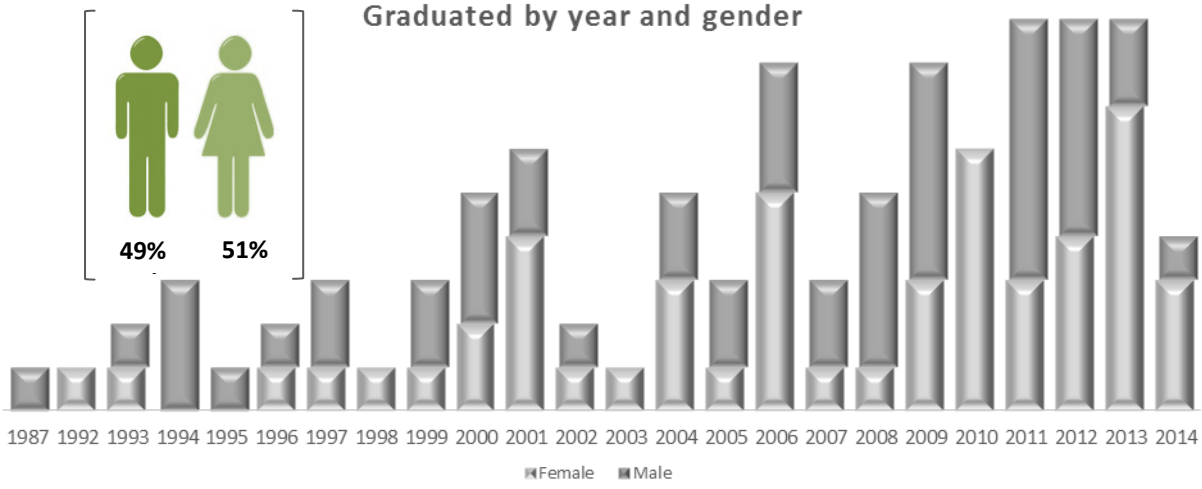
Since its foundation the unit of Epidemiology and Global health has been contributing to the education of new generations of global health leaders. The unit issued its first doctoral degree in 1987, and today after 27 years, we are pleased to have reached the landmark figure of 100 PhD graduates.

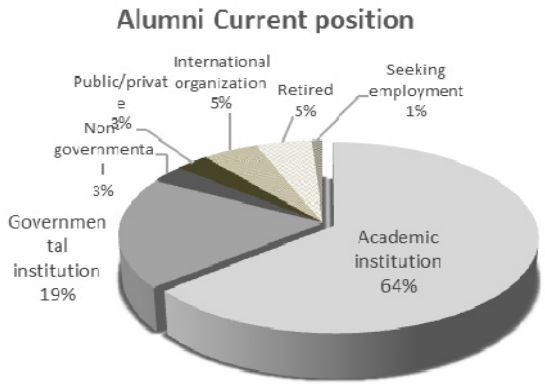
As part of the commemoration of this important milestone, we mapped our alumni to reflect on our history and to get an overview of what our graduates have been doing after the PhD completion, their accomplishments and the role that the PhD training has played in shaping their careers. This was what we found:

Our PhD program has a strong international profile, we have been successful in attracting students from more than 20 countries worldwide, and at the same time we have had great success attracting homegrown talents. 54 percent of the PhD degrees have been awarded to international students, from which 49 percent have been conferred to students from low and middle income countries.



Gender equality have been one of the priorities of our PhD program, so not surprisingly, the number of graduated women slightly outnumber the male counterpart.



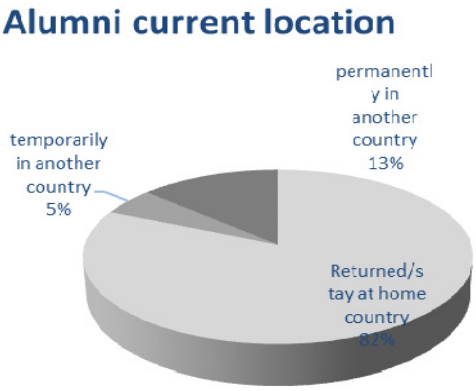


It is immensely satisfying to find that our PhD alumni are being successful as professors, senior lecturers, research leaders and chief scientists in various academic institutions, as well as managers, directors, head of departments, coordinators and senior advisors in different governmental, non-governmental, public and private institutions at local, national and international levels.

As rich and diverse as our student population is the span of research developed by our PhD alumni. 83 percent of our graduates are currently conducting research as one of the main activities in their job positions. 47 percent of our graduates have been conferred research grants and 15 percent have received honors and awards for their research contributions.

Most of our graduates have returned or stayed in their countries and are "using the acquired skills at home". A small proportion has moved to another country or are working temporarily abroad.

Our alumni have succeed in today's increasingly competitive job market, 64 percent are employed in academic institutions and substantial number in governmental institutions. 31 percent of our graduates have moved into new positions since graduation and 73 percent have received a promotion in their job.



The PhD training has played a very important role in the development of their academic careers, some of our alumni expressed this way: "*The PhD has meant all for how I've proceeded in academia!*"; "*As simple as it might sound without my PhD I would have most likely continued working as a high school teacher*". The development of research skills is also perceived as an important tool to develop a career outside academia, one alumni stated: "*The skills on planning, conducting and analyzing data are always with me, and those are very useful when working in management positions*".

Greetings from our alumnis in Yogyakarta, Indonesia

Engaging with society – Unit's third mission

Epidemiology and Global Health envisions to contribute to equitable and sustainable improvements in health and welfare across the globe. We believe that this can be achieved by conducting good research and education only provided that the commitment for engagement with society is strong.

Engagement with society is referred to as a third mission of Umeå University, with teaching and research being the first two. The unit of Epidemiology and Global Health is passionately committed to all three, which is clearly stated in the unit's mission statement "Our mission is to conduct ethically sound, transdisciplinary, and innovative research and education, and to engage with society". In the respective sections of this Annual Report, we present past year's achievements in the areas of teaching and research. Here, we would like to share why and how we engage with society.

When the first university in Bologna was established the objective was to promote societal development. However, gradually the need, or possibly the wish, to interact with society was reduced, as the universities strived for their independence. As a result, teaching and research have been seen as universities' only two missions for centuries. Lately the universities' contribution to global economic and social development has been increasingly encouraged by policy makers and other stakeholders and once again recognized as universities' *third mission*.

When the Unit of Epidemiology and Global Health was established 1986 the core was, and still is, to be interactive with society. Problems in villages such as Butajira in Ethiopia, ideas in cities like Hanoi in Vietnam, and possible solutions to health issues in the county of Västerbotten, are all examples when our research as well as our teaching had the interaction with the surrounding society at its core. A more recent example is a seminar on "Action for Somali Health Research and Development" held last December in Umeå to raise awareness and promote a response by the international community to address the formidable challenges and pressing unmet needs facing the rehabilitation and recovery of the health sector in post-conflict situations. At the end of the two days of deliberations, the participants agreed on a joint statement, committing themselves to work for national and international partnerships in support of efforts to revitalize the Somali Health systems and to promote and strengthen capacity for research as a key component in health development.

For us the third mission, engagement with society, has multiple meanings, including but not limited to:

Translation of research into policy and practice through collaboration with various stakeholders locally and globally. Local examples include large scale interventions such as Västerbotten Intervention Programme, the Salut Programme, and Tobacco-free-duo. These interventions involve researchers, decision-makers, primary health care, dental and school personnel in Västerbotten County. A collaboration focused on climate change and health between Västerbotten County Council, Sweden, and Yogyakarta City Government, Indonesia, can serve as an example of cooperation between researchers, decision-makers and industry across borders. The project focus is on creating an Early Warning System for a climate sensitive disease – dengue fever, involving all important stakeholders. Researchers involved in the project have also been invited to the White House Office of Science and Technology Policy in Washington, D.C., USA. Together with other participants, including representatives from National Aeronautical and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), and Centers for Disease Control and Prevention (CDC), they have discussed how to accelerate the development and federal application of models for predicting dengue epidemics.

For us the third mission, engagement with society, has multiple meanings, including but not limited to:

Provision of consultations. Our consultancy functions range from advisory to the United Nations and its specialized agencies, particularly World Health Organizations; the European Centre for Disease Prevention and Control; to the Swedish Board of Health and Welfare, Västerbotten County Council, just to name a few.

Increasing health literacy and awareness on global health issues through educational activities aimed at the public, decision-makers, and personnel within public and private sectors. For example, in 2014 our researchers gave presentations during FORTE talks in Stockholm, at the university days during the Umeå Capital of Culture events, and at the annual primary health care personnel learning days in Västerbotten County, etc. Our activities also reach outside Sweden. In 2014, our researchers contributed to organizing a workshop on mental health, youth development, and suicide prevention in Cambodia, which united practitioners (psychiatrists, nurses, and pharmacists), teachers, Ministry of Health representatives, journalists, researchers, NGO staff, and young people. To further increase awareness on various global health issues, we continuously spread information about our activities and their results. The unit's website, www.phmed.umu.se/units/epidemiologiv, provides detailed and up-to-date information on research, training, and the third mission. When it comes to the Unit's research, this can also be found on the webpage of Umeå Centre for Global Health Research: www.globalhealthresearch.net. Several of our researchers also communicate on twitter and blogs, including www.huffingtonpost.com/peter-byass , and blogg.umu.se/forskarbloggen/category/medicin

Contributing to increasing informational exchange and research data sharing. The online open-access journal Global Health Action, www.globalhealthaction.net,was started and is driven by members of the unit and is one of the cornerstones in our work with the third mission. Furthermore, we engage actively in creation of various forums and meeting points for researchers

and other stakeholders. In 2014 our researchers launched a cross-disciplinary research network on "Equity in Health" that unites all interested at Umeå University. In October 2014, together with our colleagues from KEM Hospital Research Centre in India, we organized an international workshop on climate and health, which may serve to launch an Indian network and foster collaboration.

Increasing public engagement with global health issues. One of the activities includes promotion of minor field studies among Swedish students within the health sector or health related fields. This is done through SIDA Minor Field Study scholarships. Our Master and Doctoral programmes appeal to a wide scope of specialists both within and beyond health care. Adjunct professorships serve to further channels within other fields.

In 2014 our engagement with society reached a truly global feat when a group of researchers published a call for global health movement, re-published here in its full length. Revolutionizing the approach to public health and making it truly global - planetary - this Manifesto turned to every person who has an interest in their own health, in the health of their fellow human beings, and in the health of future generations. Thus, creating a social movement to support collective public health action at all levels of society. Hitherto, the Manifesto has been endorsed by over 7000 signatories around the world. Importantly, our Vice-Chancellor, Lena Gustafsson has signed it on behalf of Umeå University.

Summarizing, we are once again proud to say that engaging with society is at the heart of all our activities. At the Unit of Epidemiology and Global Health we continuously strive for high quality of research and teaching which gives us rich possibilities for interaction with the surrounding world. All this can be done thanks to devoted leadership and administrative staff, researchers, and lecturers but also thanks to collaborators from all around the world including Sweden, Indonesia, South Africa, England, New Zealand, Bolivia, Tanzania, etc. For us the *third mission* is not less important than the two large missions - research and education – but even more significant because it epitomizes how research and education contribute positively to the development of societies regarding health and welfare.

During 2014 we have been engaging with society via many different media.

From public to planetary health: a manifesto

This manifesto for transforming public health calls for a social movement to support collective public health action at all levels of society—personal, community, national, regional, global, and planetary. Our aim is to respond to the threats we face: threats to human health and wellbeing, threats to the sustainability of our civilisation, and threats to the natural and human-made systems that support us. Our vision is for a planet that nourishes and sustains the diversity of life with which we coexist and on which we depend. Our goal is to create a movement for planetary health.

Our audience includes health professionals and public health practitioners, politicians and policy makers, international civil servants working across the UN and in development agencies, and academics working on behalf of communities. Above all, our audience includes every person who has an interest in their own health, in the health of their fellow human beings, and in the health of future generations.

The discipline of public health is critical to this vision because of its values of social justice and fairness for all, and its focus on the collective actions of interdependent and empowered peoples and their communities. Our objectives are to protect and promote health and wellbeing, to prevent disease and disability, to eliminate conditions that harm health and wellbeing, and to foster resilience and adaptation. In achieving these objectives, our actions must respond to the fragility of our planet and our obligation to safeguard the physical and human environments within which we exist.

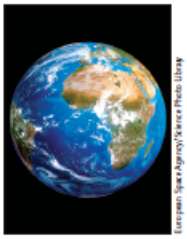
Planetary health is an attitude towards life and a philosophy for living. It emphasises people, not diseases, and equity, not the creation of unjust societies. We seek to minimise differences in health according to wealth, education, gender, and place. We support knowledge as one source of social transformation, and the right to realise, progressively, the highest attainable levels of health and wellbeing.

Our patterns of overconsumption are unsustainable and will ultimately cause the collapse of our civilisation. The harms we continue to inflict on our planetary systems are a threat to our very existence as a species. The gains made in health and wellbeing over recent centuries, including through public health actions, are not irreversible; they can easily be lost, a lesson we have failed to learn from previous civilisations. We have created an unjust global economic system that favours a small, wealthy elite over the many who have so little.

The idea of unconstrained progress is a dangerous human illusion: success brings new and potentially even more dangerous threats. Our tolerance of neoliberalism and transnational forces dedicated to ends far removed from the needs of the vast majority of people, and especially the most deprived and vulnerable, is only deepening the crisis we face. We live in a world where the trust between us, our institutions, and our leaders, is falling to levels incompatible with peaceful and just societies, thus contributing to widespread disillusionment with democracy and the political process.

An urgent transformation is required in our values and our practices based on recognition of our interdependence and the interconnectedness of the risks we face. We need a new vision of cooperative and democratic action at all levels of society and a new principle of planetism and wellbeing for every person on this Earth—a principle that asserts that we must conserve, sustain, and make resilient the planetary and human systems on which health depends by giving priority to the wellbeing of all. All too often governments make commitments but fail to act on them; independent accountability is essential to ensure the monitoring and review of these commitments, together with the appropriate remedial action.

The voice of public health and medicine as the independent conscience of planetary health has a special part to play in achieving this vision. Together with empowered communities, we can confront entrenched interests and forces that jeopardise our future. A powerful social movement based on collective action at every level of society will deliver planetary health and, at the same time, support sustainable human development.



European Space Agency/Science Photo Library

Richard Horton, Robert Beaglehole, Ruth Bonita, John Raeburn, Martin McKee, Stig Wall

The Lancet, London NW1 7BY, UK (RH); University of Auckland, Auckland, New Zealand (RBe, RBo); Department of Public Health, AUT University, Auckland, New Zealand (JR); Department of Health Services Research and Policy, London School of Hygiene & Tropical Medicine, London, UK (MM); and Department of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden (SW)

We declare that we have no competing interests. RBe and RBo gratefully acknowledge their Rockefeller Foundation, Bellagio joint residency.

Institutional setting

Organisation

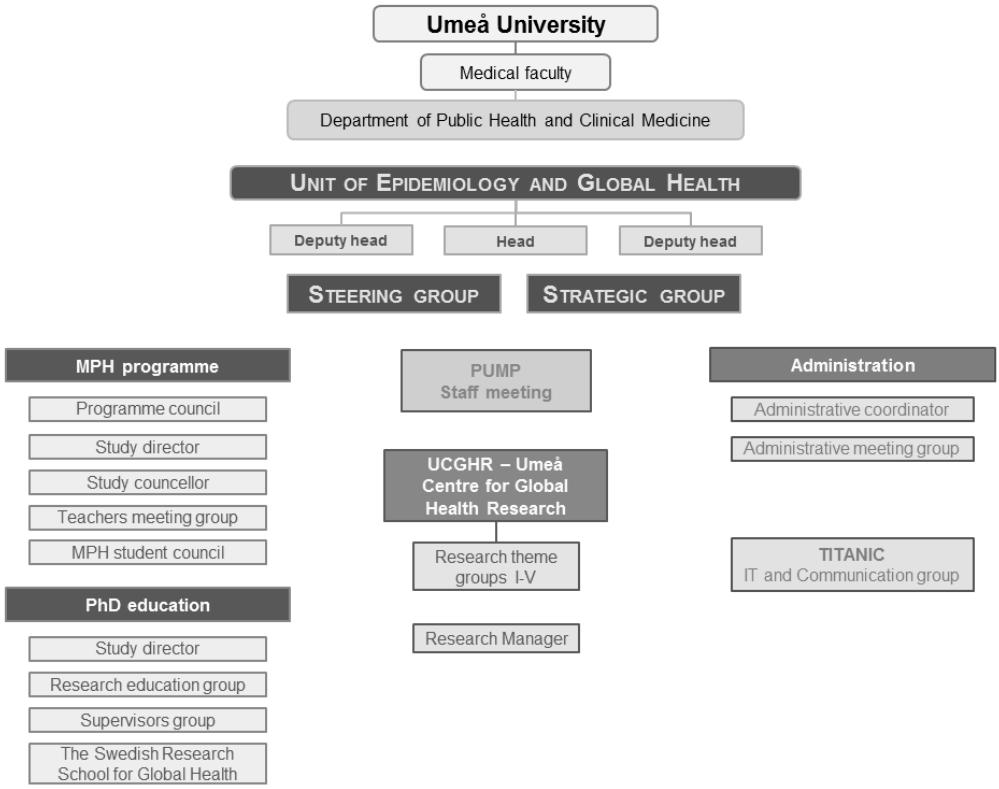


Figure 1. Organisation of the Unit within Umeå University.

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). We take the Universities' so called "third mission" seriously, thus, we engage with society in many different ways.

Our research is organised under the umbrella of Umeå Centre for Global Health Research (UCGHR) (pages 25-32). We host Umeå International School of Public Health with Master Programmes in Public Health (MPH) (pages 42-46), and the Swedish Research School for Global Health (page 47-48), the latter in partnership with Karolinska Institutet and Lund University.

The leadership group meets weekly, and we have a strategic forum to allow more in-depth discussion on how to move forward long term. All staff are encouraged to participate in the bi-weekly staff meeting (PUMP) and in the unit day(s) usually taking place each semester. 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.

Leadership group

The group is built by persons having specific responsibilities within the Unit, and has an executive mode of working. Over the last year the group had the following members:

Anneli Ivarsson	Head of Unit
Kjerstin Dahlblom	MPH Study director
Andreas Ekholm	Economist
Anna-Karin Hurtig	Deputy head of Unit and PhD Study director
Karin Johansson	Administrative coordinator
Klas-Göran Sahlén	Deputy head of Unit

Strategic forum

This group meets three times each semester to discuss both long and short term issues within the areas of research, education and engagement with society ("third mission"). Concrete suggestions are given to the Unit's leadership to consider. Participation in the group is based on core positions at the Unit:

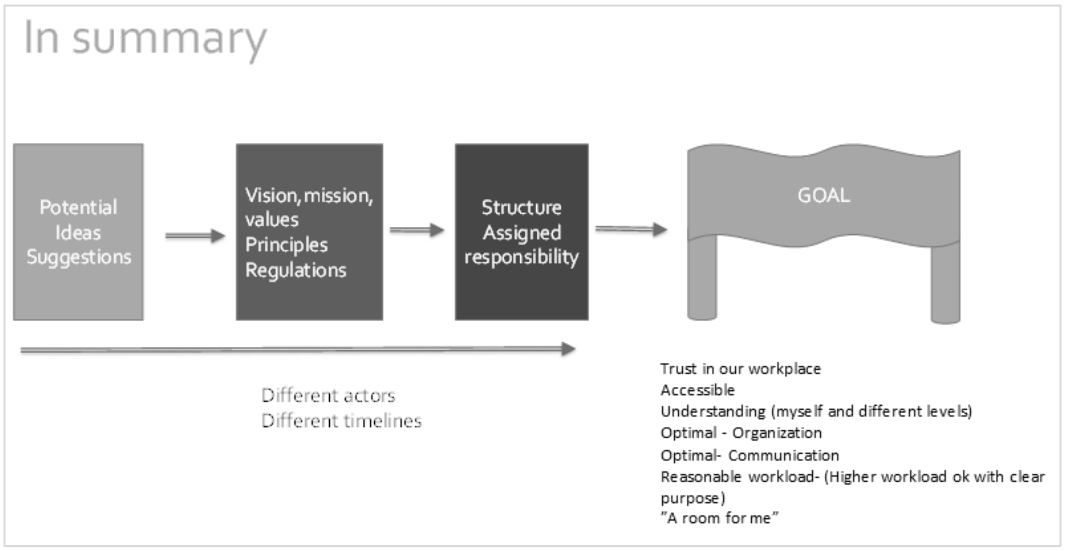
Anneli Ivarsson	Head of Unit
Maria Nilsson	Chair of the group
Kjerstin Dahlblom	MPH Study director
Malin Eriksson	Deputy theme IV leader
Anna-Karin Hurtig	Deputy head of Unit, PhD Study Director, and Theme III leader
John Kinsman	Deputy leader UCGHR
Kristina Lindvall	Theme II leader
Nawi Ng	Theme I leader and GHA editor
Joacim Rocklöv	Theme V leader
Klas-Göran Sahlén	Deputy head of Unit

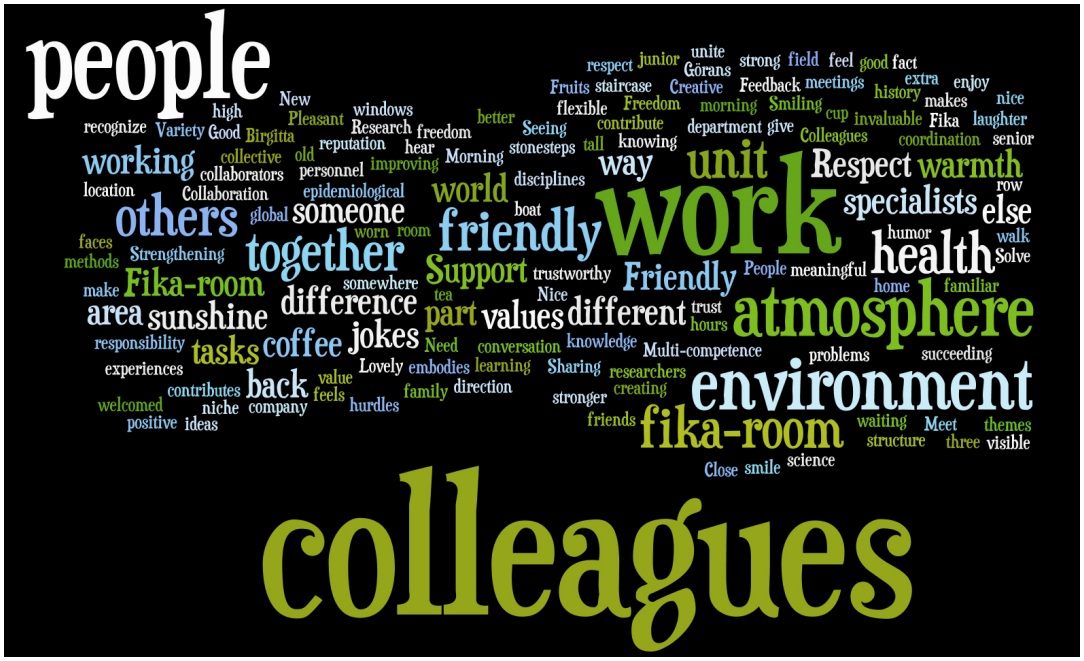
Reducing Epi's carbon footprint

Over the last years our involvement as Unit for a sustainable environment has increased. We have implemented the following actions for reducing the Unit's carbon footprint. Recycling bins for cardboard and plastic have been introduced together with a rotating system for emptying. Orientation materials for new employees and visiting students include information about recycling. Distribution of printed materials for Master's students have been limited to lecture handouts. Double-sided printing is being set as default on all computers. Microsoft Lync-communication system has been adopted by the unit to facilitate virtual meetings. Vegetarian or locally produced food is offered as the default option at unit events. Coffee, tea, hot chocolate, and milk powder provided in the coffee room is fair trade and organic.

Communication – Creativity - Culture

After developing our *Vision-Mission-Values* statement last year we have continued discussing our working environment through what we have labelled the 3 C:s: Communication – Creativity - Culture. During our unit-days we have tried raising the awareness for how we work together, we have discussed whether we have an "Epi- culture", our ways of communicating and if there is an allowing atmosphere for creativity. We identified good examples and warning flags for each of the C:s. Thefigure below summarizes the different points that we believe impact the working environment and the agreed goals. Our ultimate goal for 3C's and working environment is that all staff should feel welcomed, embraced and have a sense of belonging.





Above are the words that came up when staff got the question of what made them happy when thinking about “Epi”.

FIKA was most frequent word showing the importance of a central point where people can meet and relax.

Staff development

At present 69 research and administrative posts are attached to our Unit (not including sandwich doctoral students), out of which 70% are women. Out of the 60 PhD students 32 are women and 28 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. Both staff and PhD students represent a wide range of different professions, as for example physicians, nurses, sociologists, economists, social workers, dentists, environmentalists, physiotherapists and nutritionists.

Budget

The total budget (Table 1) for this year amounted to 46 million SEK, 65% of which consisted of external research grants or grants for bilateral development research projects (Figure 2). 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 Umeå University (2), Erling-Persson foundation (11), and the Swedish Institute (24). Seven PhD students were awarded scholarships from the Swedish Centre Party donation.

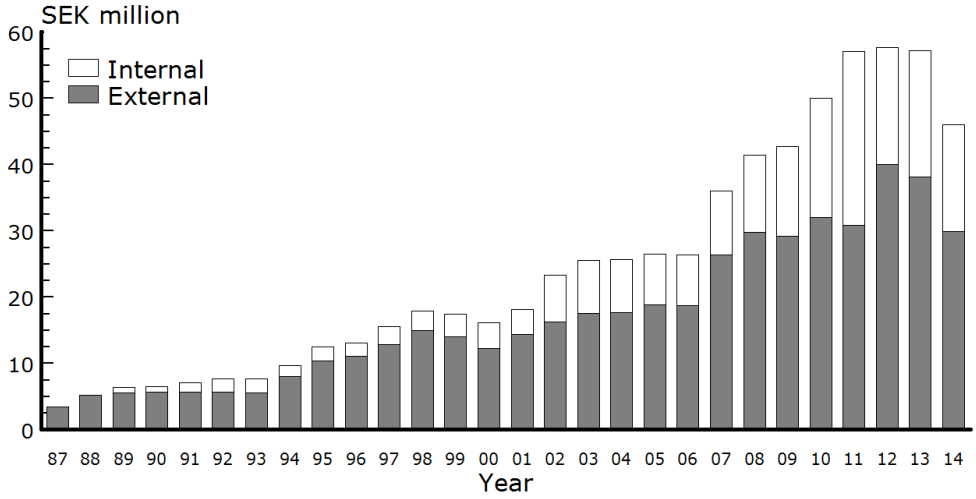


Figure 2. Development of annual budget 1987-2014.

Table 1. Revenues and costs during 2014.

Revenues (1000 SEK)	Undergraduate and Master's Studies	Research and Doctoral Studies	Commissioned research	Total
Government grants	5 075	6 714	0	11 789
External contracts	3 525	0	3 276	6 801
External grants	0	23 304	0	23 304
Other revenues	946	2 906	5	3 857
Total	**9 546**	**32 924**	**3 281**	**45 751**
Costs (1000 SEK)				
Staff	6 239	20 612	1 915	28 766
Premises	297	797	4	1 098
Other operative expences	1 143	9 865	962	11 970
Depreciation	0	153	5	158
Overheads	1 025	2 436	373	3 834
Total	**8 704**	**33 863**	**3 259**	**45 826**

Table 2. Financial Resources in 2014 broken down by different funding agencies

Financier	Incomings (million SEK)
FORTE	11,9
EU	5,4
Vetenskapsrådet	3,5
SIDA	1,2
SMI	0,7
Other organizations	0,6
Total	**23,3**

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 result from the processes leading up to a publication, i.e. from a research idea over project planning, data collection and analysis, and ultimately a measurable outcome such as a published paper.

During this year, 60 PhD students were associated with our unit, 15 of which were registered during the year. Figure 4 shows the number of doctoral dissertations over time

As part of the Medical Faculty budget model three parameters are used for assessment of productivity: Publications, PhD exams; and external grants. Each department/unit is given a budget, based partly on this assessment system. Over the years we have been increasingly competitive in this evaluation.

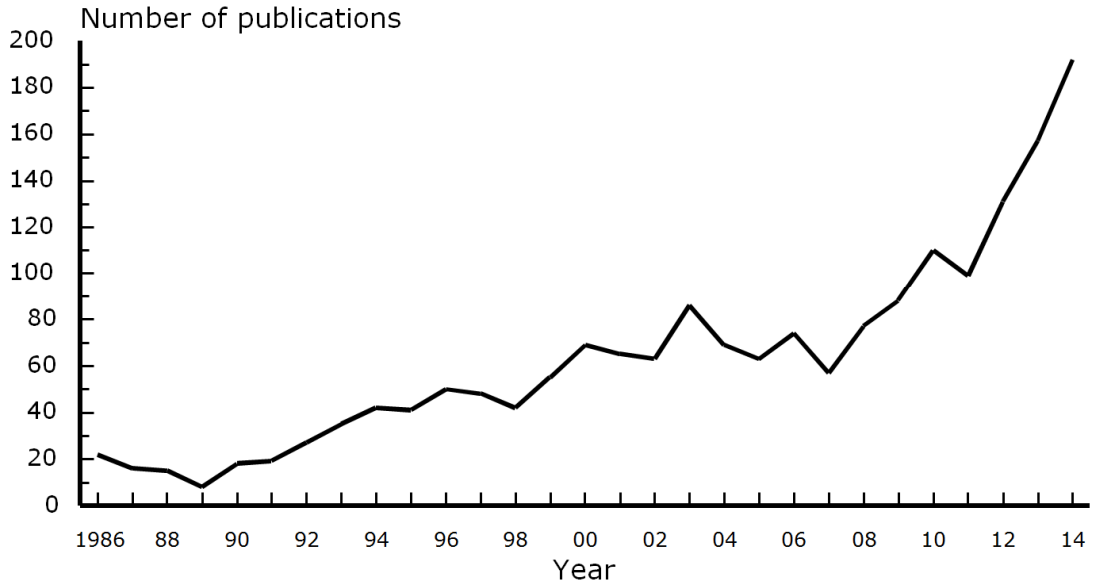


Figure 3. International publications in peer reviewed journals 1986-2014.

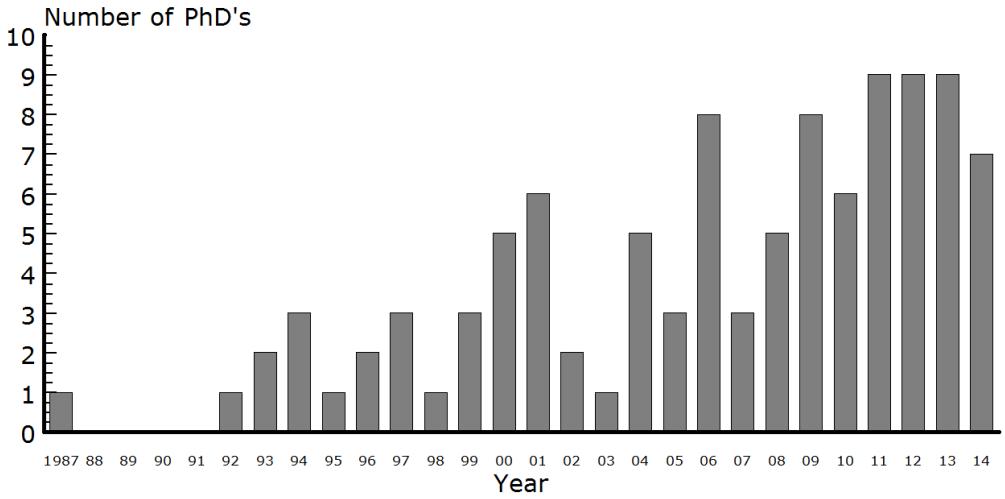


Figure 4. Doctoral dissertations at the Unit 1987-2014.

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. Research interests in young people's well-being.

Yulia Blomstedt. MPH, PhD. 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. PhD in sociology, researcher and teacher at the Epidemiology and Global

Health Unit. Teaching on social pathways in health and health promotion; social, gender and ethnic inequalities in health; and Grounded Theory. Research centers on activism on gender and health issues in Sweden and Latin America also on how Swedish teenagers engage in political action, understand adolescent health and influence health policies (Ung i Botnia). Regional Representative from Europe for the Research Committee 32 "Women in Society".

Kjerstin Dahlblom. MPH, PhD. Director of Studies for Umeå International Master Program in Public Health (UISPH). 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.

Andreas Ekholm. Financial 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 at Umeå International School of Public Health, and supervise students at Master and PhD levels. The research mainly concerns social determinants of health (SDH) and in particular social capital and its implications for health promotion. Also involved in qualitative and quantitative research about the SDH and social capital. Deputy theme leader for theme IV "Gender, Social Inequality, and Health" within Umeå Centre for Global Health Research, and section editor for the international peer-reviewed journal Global Health Action.

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.

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 response to intimate partner violence against women in Spain.

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. Research course administrator Also administrator on the course in Epidemiology and Biostatistics within the biomedicine programme. Reviewer for the unit in the personnel administrative self-service system at Umeå University. 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. PhD. 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.

Anna-Karin Hurtig. MD, DrPH, DTM&H, MSc. Professor in public health. Head of Social Medicine, Deputy head of Epidemiology and Global Health. 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. PhD. Doctoral studies on implementation challenges in health and social care organizations.

Anneli Ivarsson. Head of Unit. MD with specialist training in Paediatrics. PhD in Paediatrics and Associate Professor in Epidemiology and Public Health Sciences. Nationally and internationally known for decades of coeliac disease research. Scientific leader of the Child-Health Intervention Programme Salut in Västerbotten. Principal investigator of the Umeå SIMSAM Lab focusing on multidisciplinary register-based research connecting childhood with life-long health and welfare. Attached to the Strategic Development

Office (Unit of Public Health) at the Västerbotten County Council.

Urban Janlert. MD, Senior 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. PhD. Physiotherapist. Doctoral studies on "A more health promoting health care service from the perspective of health professionals".

Karin Johansson. Administrative co-ordinator. Responsible for departmental and staff administration.

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 Associate 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; health systems research and development in Zambia and the Tigray Region of Ethiopia; development of a social marketing strategy to promote Ebola treatment-seeking behaviour in Sierra Leone; and public health emergency preparedness activities within Europe, in collaboration with the European Centre for Disease Prevention and Control (ECDC). Extensive previous research experience on behavioural HIV prevention, ART adherence, AIDS policy, and HIV testing and counselling in Uganda and several other African countries.

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. Also responsible for the administration in Selma, the central database which handles educational formalities regarding courses, programmes and enrolment information.

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. PhD 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).

Paola Mosquera Mendez. Post doc. Her project aims to examine the life-course determinants of not only cardiovascular health, but also of socioeconomic inequity in cardiovascular health in northern Sweden. For this project she will use the longitudinal data from the Västerbotten Intervention Programme (VIP) linked to the SIMSAM Lab, and will examine individual and contextual determinants from childhood to adulthood, of both cardiovascular health and socioeconomic inequity in health in middle-age."

Lena Mustonen. Department administrator, staff directory co-ordinator and web master. Also administrates the publication database (DIVA) and the research database. Research administrator within the Umeå SIMSAM Lab and the EU-supported projects DengueTools and INTREC.

Anna Myléus. MD, resident physician in Family Medicine, 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 within Health and well being among older people in and in low- and middle-income countries. Also in epidemiology of chronic diseases and their risk factors in Sweden and in low- and middle-income countries. Teaching in the Master of Public Health program and the PhD program. Member of Centre for Global Health Research steering group and theme leader in the "Epidemiological Transition" research at the centre. Elect Chief Editor of Global Health Action.

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, PhD. Research studies on the challenges and opportunities for HIV/AIDS/TB care and prevention among immigrants from countries in sub-Saharan Africa.

Margareta Norberg. MD, PhD. 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.

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 counselor at the Master Programme in Public Health. Study administrator for the courses given during the 1st year of the programme.

Sandra Pandey 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.

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 schoolchildren from Umeå (the SISU project), which focus health and health development over the school-years, including its impact and predictors.

Raman Preet. BDS, MSc DPH, MPH. A dentist with masters in dental public health and public health working as Scientific Project Manager at the Umeå Centre for Global Health Research, responsible for daily execution and management of two European Union funded FP7 framework projects DengueTools and INTREC. Primarily working as the contact between the two consortiums comprising eighteen organizations and the EC office at Brussels. Additionally, lecture about global health to medical students and on global oral health to public health students. Research interests are in: oral health integration in global health; gender and global health; supporting sci-

entific exchange platforms in developing countries.

Anni-Maria Pulkki-Brännström. Health economist with a joint appointment at UCL Institute for Global Health (London). Her research focuses on costing complex interventions, equity in health, empowerment and household decision-making. As member of Theme 3, she is currently working on an economic evaluation of the Salut health promotion programme. She teaches economic evaluation on the MPH programme in Umeå and the MSc programme at UCL IGH.

Susanne Ragnarsson. PhD student.

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. Dr. Rocklöv an Associate Professor within Epidemiology and Global Health. He has a B.Sc. Mathematics, a M.Sc. in Statistics, and a PhD in Environmental Medicine. He is the scientific leader for a research area within the Umeå Centre for Global Health Research, Umeå University. Dr. Rocklöv´s group research the relationship between climate change and public health. The research group includes around 20 doctoral candidates, post-doctors, and mid-level and senior researchers. Dr. Rocklöv´s research focuses on modelling the relationships between weather, climate and climate change and health, and making predictions of climate sensitive diseases for adaptation and preparedness purposes

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.

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.

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.

Julia Schröders. Social scientist with training in anthropology as well as global public health and epidemiology. Research interests within aging and health transition theory; NCD risk factor epidemiology; disability studies; social networks and health; the social determinants of health inequalities; medical anthropology with special focus on LMIC populations in Asia and Africa; and policy relevant public health research. My PhD studies deal with the epidemiology and public health impact of chronic non-communicable diseases and disability in Indonesia. Also a teaching assistant in the MPH program and Managing Editor of Global Health Action.

Barbara Schumann. MPH, PhD. Researcher with a PhD in epidemiology, and master degrees in psychology and public health. Since 2011 deputy leader of the research group "Climate change and global health" with a research focus of climate and health in Sweden and India. Also interested in communities' vulnerabilities and adaptation to climate change in low and middle income countries, and supervising a PhD student researching weather variability and mortality in India.

Anna Stenling. MSc. Doctoral student within the Health Economic Evaluation of the Västerbotten Intervention Programme.

Hans Stenlund. Senior professor in biostatistics. Statistical consultant in several epidemiological and medical research projects. Giving courses in biostatistics on various levels.

Jennifer Stewart Williams. BComm(Econ), Mcomm(Econ), GradDipClinEpi, PhD. Epidemiologist with a background in economics and health services research. Wide-ranging experience in policy development, implementation and evaluation in Australia, and in the use of cross sectional and longitudinal survey data collected at national levels. Conjoint academic, Research Centre for Gender, Health and Ageing, University of Newcastle, Australia; Visiting Research Fellow, Health Statistics and Health Information Sys-

tems, World Health Organization, Genève, Switzerland; Research Engineer in the Epidemiological Transitions Research Theme at Department of Public Health and Clinical Medicine, Epidemiology and Global Health, Umeå University, and Section Editor for Global Health.

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. Her research within UCGHR is focused at developing the methodology for how different types of health interventions can be evaluated. Teaching in research methodology.

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.

Stig Wall. Professor Emeritus of epidemiology and health care research. 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.

Lars Weinehall. Professor of Epidemiology and Family Medicine. Family physician with many years of clinical experience in primary care and family medicine. Has during nearly 25 years been coordinating the development and county wide implementation of one of the world's largest ongoing population-based intervention program for the prevention of cardiovascular diseases (CVD) and diabetes, the Västerbotten Intervention Program (VIP). Since 1994 affiliated to Epidemiology and Global Health. Has largely devoted his research to the analysis of the role of primary care in population-oriented prevention.

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.

Affiliated staff

Helena Bogseth. Strategist and coordinator at the Registry Centre Northern Sweden. Organizing and taking part in registry based quality improvement work. Cooperates with Epidemiology and Global Health in quality improvement research projects.

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.

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.

Berit Edvardsson. MD, General Practitioner. Doctoral studies on patients with symptoms related to indoor environmental factors. Teaching in medical ethics. Also attached to the unit of Occupational medicine.

Martin Ferm. Statistician at the Registry Centre Northern Sweden .

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.

Gabriel Granåsen. Statistician at the Registry Centre Northern Sweden.

Henrik Holmberg. Statistician at the Registry Centre Northern Sweden .

Kathleen Kahn. PhD, MPH, MBBCh. 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 Witwatersrand, South Africa.

Tord Kjellström. 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.

Jack Lysholm. After several years as Director of Research and Development at Västerbotten County Council and adjunct professor, he is now professor emiritus and head of Centre of Registries North, focusing on infrastructure for registry research in health care. Research also on Injury Epidemiology and to the major part based on the Umea Injury Database.

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.

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.

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. Dr. Salazar is also a researcher at the Centre for Demography and Health Research (CIDS) at the Nicaraguan National Autonomous University, León.

Stephen Tollman. (MA MPH MMed PhD), 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.

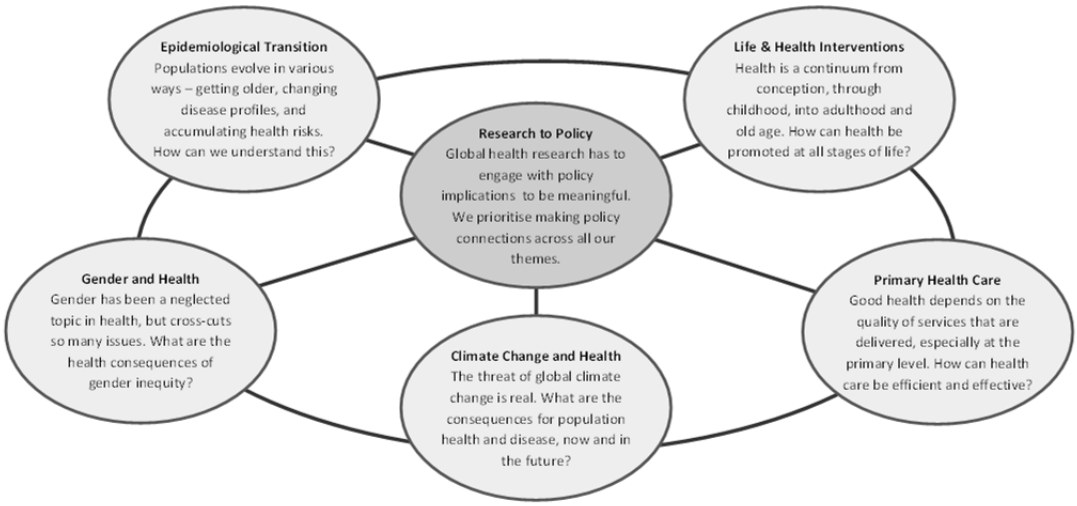
Research

Umeå Centre for Global Health 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 geography – and is organised under the umbrella of the Umeå Centre for Global Health Research, a centre of excellence which was established in 2007 core funded by 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 Development 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 this is how they fit together:



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 successful 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. You can read more at our website www.globalhealthresearch.net

Since the Centre's founding in 2007, under the initial leadership of Prof. Stig Wall, we have published over 1,000 scientific articles, and the numbers continue to increase, with over 200 in 2014. 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.*" (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 undertaken in Theme I aims to improve the understanding of global epidemiological transitions by using quality register data in high-income countries, as well as population-based data from national health surveys and health and demographic surveillance system (HDSS) sites in low- and middle-income countries. Research within Theme I has been based on long-term collaborations with researchers in the African and Asian HDSS sites within the INDEPTH Network, international bodies such as the World Health Organization (WHO) and Swedish researchers within and outside Umeå University.

Projects

Mortality and verbal autopsy: Researchers in Theme I have taken the leading role in the development of InterVA (www.InterVA.net), which is a computer model for interpreting verbal autopsy interviews in a reliable and consistent manner. In 2014, we worked closely with researchers in the INDEPTH Network to analyse cause-specific mortality in 22 HDSS sites in 13 African and Asian countries. The study resulted in a special issue published in the open-access journal, Global Health Action, with Professor Peter Byass and Professor Osman Sankoh (Director of INDEPTH) as the Guest Editors. Peter is also the Director of the WHO Collaborating Centre for Verbal Autopsy, hosted by Umeå University.

Ageing: The implementation of the WHO Study on Adult Health and Ageing (SAGE) in collaboration with the INDEPTH Network has improved understanding of disability, quality of life and well-being among older adults in eight countries in Africa and Asia. The SAGE has also been implemented in China, Ghana, India, Mexico, the Russian Federation and South Africa. Researchers in Theme I have utilized SAGE data from these six emerging economies for both research and educational purposes. In January 2014 Australian epidemiologist Dr Jenny Stewart Williams joined Theme I as a researcher. Jenny has worked at the WHO headquarters in Genève and collaborated with Dr Somnath Chatterji, Chief Investigator for WHO SAGE, on a number of publications. In February 2014 Theme I hosted a visit to Umeå University by Dr Chatterji during which time he conducted an open seminar on the SAGE study and met with MPH students to discuss proposed thesis topics involving the SAGE dataset.

Theme I researchers have also conducted ageing research using the rich longitudinal Linnaeus database which combines population register and health survey data on adults for the period 1990-2006. Dr Nawi Ng participated in two successful research grants which utilized the Linnaeus database to: (i) understand the impacts of income inequality and mobility on health in Sweden (supported by the Swedish Research Council, 2013-2015) and (ii) test whether Swedish older people experience the compression of morbidity (supported by FORTE, 2014-2016).

Intersection between communicable diseases and non-communicable diseases (NCDs): During 2014, researchers in Theme I concluded the EPI4+ project in Indonesia. The project, led by Prof. Stig Wall, is a partner driven corporation project funded by SIDA which aims to improve understanding of the social determinant of health inequity and NCDs in Indonesia.

PhD and MPH training at a glance

A number of PhD students in Theme I work with different global health issues related to the epidemiological transitions. These include the double burden of malnutrition in Indonesia (Masoud Vaezghasemi), chronic NCD risk factors in Indonesia (Cahya Utami Puji Lestari), chronic illness and disability in Indonesia (Julia Schröders), mortality inequality in Sweden (Ailiana Santosa), indoor air pollution in Kenya (Kanyiva Muindi), HIV/AIDS in South Africa (Paul Mee), maternal and child mortality in northern Ethiopia (Hagos Godefay Debeb and Atakelti Abraha

Derbew), Visceral Leishmaniasis in northern Ethiopia (Tsigemariam Teklu Gebreslassie), and NCD risk factors among urban slum populations 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).

During 2011-2014, Theme I researchers have mentored 17 MPH students who used the WHO and WHO/INDEPTH SAGE dataset for their MPH theses. All have been successfully defended. Two students have published their SAGE works in international peer-review journals, and a few more papers from other SAGE students are in the pipeline.

During autumn 2014, Theme I hosted an introductory workshop on the statistical programming language R. The workshop was well attended by students and researchers from the Unit and the University more widely. The course was led by Brian Williams and Jenny Stewart Williams, both formerly from the University of Newcastle, Australia.

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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 25 consecutive annual examinations of most Västerbotten inhabitants aged 40, 50 and 60 years. Around 70% of all 40, 50 and 60 year olds participate in the VIP contributing with data from 7000 individuals per year. The VIP data base contains data from 153,400 examinations of 105,600 individuals. Around 34 700 individuals have participated twice and 6 500 have participated at three occasions. 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 multidisciplinary 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).

During 2014 we have continued the capacity building of the theme by arranging two workshops with invited guests, Professor Måns Rosén, SBU, Sweden and Professor Peter Schulz, University of Lugano, Switzerland. Professor Rosén gave a workshop sharing experiences from a systematic review of "general health checks in adults for reducing morbidity and mortality from disease". Professor Schulz gave a two day seminar on the theme "Health literacy and risk perception: Implications for communication in the field of health". Members of the theme has since continued to collaborate with Professor Schulz.

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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, Rwanda, Bolivia, Ethiopia, Zambia, Tanzania, South Africa, Germany and Sweden. During 2014 we moved forward in our new Sida supported research training partnership programmes with the National University of Rwanda and Universidad Mayor de San Simon, Cochabamba Bolivia and initiated the planning for the next 5 year phase with Muhimbili University of Health and Allied Sciences (MUHAS). These training partnerships focus on health systems and policy research.

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.

We would like to give some examples of our activities during 2014; the importance of local governance mechanisms for quality of service delivery in rural areas has been shown in studies from Tanzania, Zambia and Malawi. A special focus on responsiveness has been given to mental health in Iran. In Vietnam the role of insurance in protecting from catastrophic expenditures has been investigated. The role of financial incentives for increasing institutional delivery has been the focus of a major study in India. 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.

In Sweden some of our work has focused on migrants studying asylum seekers´ experiences and perceptions of Swedish health care as well as social workers and police officers mental health in repatriation work of unaccompanied asylum-seeking refugee children.

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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 2014 the theme has continued publishing work on Gender and Health, and has specifically worked on a special issue on Gender and Health in Global Health Action with Ann Öhman, Isabel Goicolea and Malin Ericsson as guest editors. The papers included in this cluster deal with themes such as Sexual and reproductive health and rights, Violence against women (VAW) or intimate partner violence (IPV), Men, masculinities and health, Epidemiological perspectives on gender and health, Access to health services from a gender perspective and Health policy. We also took part in publishing a special issue in Women's Studies International Forum, in which Ann Öhman was one of the editors. The special issue deals with 'Challenging gender and violence: Positions and discourses in Swedish and international contexts'

We also presented our research on several research conferences, for example in Italy,

on Prevention- EU COST Action Femicide across Europe, in South Africa on Realist evaluation and other theory-driven inquiry approaches in health policy and systems research, and in Sweden on Nordic Working Life Research. Research collaboration with several institutions around the world continued, among them Alicante University in Spain and CIDS, UNAN-León in Nicaragua. And collaboration with Umeå Centre for Gender Studies at Umeå University continued.

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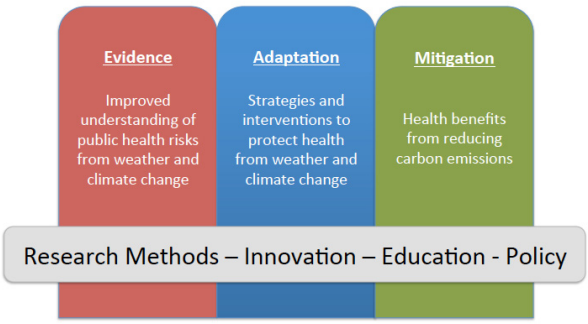
Theme V: Climate change and global health

The work on Climate Change and Health within The Centre for Global Health Research at Umeå University is carried out by a core team with both internal collaboration within the centre and with researchers at Umeå University, as well as with external regional, national and international partners. Theme V conducts research on health impacts, adaptation and mitigation of climate change globally. The overall aim is to i) strengthen the knowledge of how weather, climate and climate change affect the health of populations in the world, and to ii) build capacity, competence and knowledge in order to mitigate and adapt to climate-induced risks. The research theme is also involved in national and international collaborations and advocacy for policies.



Core research elements within Theme V.

Countries where we are working in are Sweden, Kenya, Indonesia, India, Sri Lanka, Costa Rica and Vietnam, among others. Many projects are affiliated with the INDEPTH network whose databases we use to assess health impacts of weather.

A general description of the theme´s research and teaching is provided in Figure below.

Projects

In 2014, Theme V involved seven researchers, 13 doctoral students and two project assistants from many different countries, in a large range of research projects and tasks.

Involvement in international initiatives

Theme members contributed substantially to the fifth assessment report of the Intergovernmental Panel of Climate Change (Working group 2), launched in 2014. They also contributed to the Lancet commission's assessment of climate change and health, and to the initiative and workshop of the US government to predict the global spread and outbreaks of climate-sensitive diseases.

Research continues in Vietnam and a supplement of eight papers were published in Global Health Action on evidence for weather, climate and climate change impacts on health in Vietnam, partly funded by SIDA and a Swedish Research Links project.

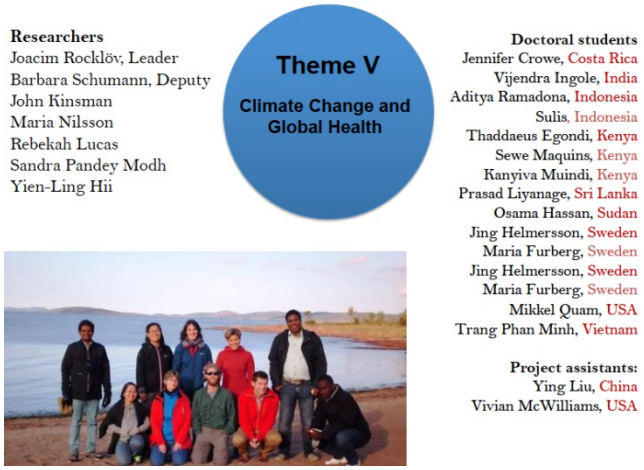
Research projects

- Climate variability and mortality in Sweden before, during and after industrialization (using historical registers of the Demographic Database at Umeå University, funded by Riksbankens Jubileumsfond)
- Prediction of tick borne encephalitis and vibriosis in Europe (funded by the European Center for Disease Prevention and Control (ECDC))
- Public health preparedness and response to epidemics and pandemics in Europe (funded by the ECDC)
- Risk of introduction of Dengue fever to Europe (DengueTools project, EU funded)
- HOPE project – investigating carbon emissions from households in Umeå, Sweden (part of a European collaboration)

- Systematic reviews: Carbon emissions and health co-benefits associated with life style; climate and infectious diseases in the Arctic; climate and Hantavirus infections in Europe
- Adaptation to climate change in rural Indonesia from a gender perspective

PhD students' projects

- In 2014 Jennifer Crowe defended her thesis on heat exposure among sugar cane harvesters in Central America.
- Our Kenyan students Kanyiva Muindi and Thaddaeus Egondi study health impacts of air pollution and weather in Nairobi, and Sewe Odhiambo engages in modeling and predicting Malaria incidences within the INDEPTH network in western Kenya.
- Osama Hassan researches the epidemiology and risk factors for Rift Valley Fever in Sudan and Kenya.
- Vijendra Ingole uses INDEPTH data to study the impact of climate extremes and weather on mortality in rural India, and co-hosted in October 2014 a network meeting to promote this work in Pune, India, funded by the Graduate School in Population Dynamics and Public Policy at Umeå University.
- Trang Phan Minh studies the nexus between weather and mental illness in Vietnam.
- Research also continues in Indonesia and incorporates doctoral students, Aditya Ramadona and Sulis Suyanto, aiming to build a Dengue early warning system and response plans in Yogyakarta, through collaboration between the local government, Västerbotten County Council, Gadjah Mada University and Umeå University.
- In Sri Lanka, Prasad Liyanage is researching the prospects for Dengue epidemic prediction and the longer-term possibilities in the Ministry of Health to implement early warning systems for Dengue outbreaks.
- Our two Sweden-based students Maria Furberg and Christina Hedlund contributed with research on climate-sensitive infectious diseases in the Arctic.
- Jing Helmersson and Mikkel Quam are researching the risks of introduction of Dengue in Europe by analyzing how climate and global inter-connectivity contribute to epidemics.



Members of the climate change and global health theme at a retreat at Höga Kusten, Sweden, September 2014.

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

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.

In 2014 the development of a new online course on climate change and health was initiated.

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Global Health Action – passing the baton after six years

When we launched Global Health Action in 2008, we had a mission to 'contribute to fuelling a more concrete, hands-on approach to global health challenges', and to address the global health agenda, with a strong focus on policy and implementation. We also lived up to our ambition to build and strengthen research capacity for young researchers from low- and middle-income countries through our mentorship program.

Our vision is to be the most respected journal in the global health field, contributing to narrowing the health information gap and thus to improve health in low- and middle-income countries.

Our strategy towards this is to establish and sustain our role as the first choice for submission by young researchers from low- and middle-income countries, to offer scientific capacity building through mentorship, a fair and swift peer-review resulting in high-impact publications and to publish a number of papers on action and interventions suggesting and demonstrating global health impact.

Having successfully passed its sixth anniversary the journal is in as good health as ever. We recently published an editorial on this occasion reporting that GHA increased its rate of submissions more than five-fold during the past three years reaching a total of 440 during 2014. During 2008–2014, GHA has published 680 articles (which include 226 original articles published as independent papers, 272 original articles in special issues, 30 editorials, 24 PhD reviews, and 128 articles of other types). During 2008-2009, GHA has published 24 special issues in different global health topics, among which are climate change, epidemiological transition, gender and health, ageing and health, HIV mortality, intimate partner violence and mental health, ASEAN regional integration, non-communicable diseases in Asia, etc. The number of papers published in GHA increased from 7 papers in 2008 to 250 papers in 2014. A total of 4151 citations have originated from papers published in GHA during 2008-2014, with an average of 5.8 cites per paper and 593 citations per year. GHA's h-index is 27 by Jan 2015.

Under the leadership of Prof. Stig Wall, the founding editor of Global Health Action, the journal has established itself as "a sustainable disseminator of health information of global reach and significance". As of 2015, Prof. Stig Wall stepped down as Chief Editor and passed the baton over to Dr. Nawi Ng, Associate Professor of Epidemiology and Global Health at Umeå University, Sweden. Two deputy editors, Prof. Peter Byass and Dr. Malin Eriksson, as well as a managing editor, Julia Schröders, will assist Dr. Ng in the core editorial team. In addition there are a number of editors in the editorial team and the international editorial board.

Founding Editor-in-Chief, Stig Wall, with his successor, Nawi Ng.

Some remarks from our authors:

"Thank you very much for your fast reply and the excellent handling of the review process, including the friendly and helpful advice you gave us on the way. We've felt looked after very well throughout the editorial process, and look forward to submit to Global Health Action again soon!"

"It's been a very smooth and easy process publishing with GHA."

"Happy to help with the review. I'm a big fan of the journal, and enjoyed the opportunity to help it continue to grow."

Global Health Action is owned jointly by the Unit of Epidemiology and Global Health/Umeå Centre for Global Health Research at Umeå University and Co-Action Publishing. Read the latest GHA's editorial at http://www.globalhealthaction.net/index.php/gha/article/view/22815#F0001_22815.

For more information, visit our website at www.GlobalHealthAction.net, or contact Dr. Nawi Ng, Chief Editor, Global Health Action (nawi.ng@umu.se)

Other research projects

Umeå SIMSAM Lab

The Umeå SIMSAM Lab is established to perform high quality, interdisciplinary microdata research on childhood and its relationship with lifelong health and welfare, focusing on areas of societal importance. The Lab has an exceptional microdata infrastructure combining social and medical data, innovative methodology, and awareness of the need to make research results available for policy development.

The Steering group has representation from the following disciplines: Epidemiology and Global Health, Geography and Economic History, Sociology and Statistics. We strive to become a nationally and internationally renowned centre of excellence on microdata research on childhood for lifelong health and welfare combining social and medical sciences. Linking data from several register sources enables analyses which in a unique way will elucidate the importance of childhood for the health and welfare of individuals in a life course and multi-generation perspective.

We apply an interdisciplinary approach to register-based research bringing together scientists from various parts of the social and medical sciences. In addition, we have a wide-spread net of collaborators both nationally and internationally.

Our research is focused on the following themes:

Theme 1 – Social and environmental determinants of child health and welfare throughout the life course.

Theme 2 – Childhood diseases in a social context.

Theme 3 – The Salut programme: monitoring, aetiological studies and evaluation.

Theme 4 – Development of modern statistical methods for microdata research.

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.

Most of the work of INTREC is now completed. Having conducted an extensive needs assessment exercise in the seven target countries (three in Africa, including Ghana, South Africa, and Tanzania; and four in Asia, including Indonesia, Viet Nam, Bangladesh, and India), a total of 22 INDEPTH researchers participated in the online and face-to-face training programme. Based in two specially established training centres in Ghana and Indonesia, the training included working with data from participants' own research sites, and then preparing policy briefs and disseminating their findings to relevant national-level decision makers. In 2015, we will be conducting a comprehensive evaluation of the project, aimed at identifying lessons learned for future 'on-the-job' training programmes on research into the social determinants of health.

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. In 2014 the European Commission granted a 6 months extension of the project.

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

Psychosocial problems and overweight/obesity have emerged as alarming health problems among children and adolescents in many countries, also in Sweden. Therefore, in 2005 the Salut Programme was launched in Västerbotten combining epidemiological surveillance and health promotion. The Salut Programme's main purpose is to improve the health of all children in Västerbotten, but also to increase knowledge on children's health, lifestyle and living conditions. 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. Module I-II-specific interventions were developed within four geographical pilot areas, before countywide dissemination 2008-2010. The health pro-

motion programmes in schools (Module III-VII) are disseminated one municipality after another, starting in the rural areas. 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 for research on children and their lives. Part of it is integrated into the Umeå SIMSAM Lab describe above. For more information, visit: www.vll.se/salut

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.

Public Health Emergency Preparedness activities in Europe

In 2014, the Epidemiology and Global Health Unit was contracted by the European Centre for Disease Prevention and Control (ECDC) to work over a four-year period (2014-2017) on a project entitled "Public Health Emergency Preparedness activities in support of EU/EEA, enlargement and European Neighbourhood Policy countries". ECDC is an agency within the European Union, which aims to strengthen Europe's protection against infectious diseases. Their mission is to identify, assess and communicate the threat to human health posed by infectious diseases. To do this the ECDC cooperates with authorities, organizations and experts across Europe to strengthen and develop surveillance and early warning systems for infections.

Epidemiology and Global Health has responsibility for two 'Lots' within this project; and we have been working in collaboration with colleagues from the PrEPArE Consortium (Public Health Emergency Preparedness Activities for Europe) from Umeå University. 'PrEPArE' is a multidisciplinary consortium of scientists from the Epidemiology and Global Health Unit, the Centre for Research and Development in Disaster Medicine, the Department of Clinical Microbiology, and the European CBRNE Center.

The first Lot, led by Associate Professor John Kinsman, involves conducting case studies on cross-border and inter-sectorial preparedness for public health emergencies. The case study conducted in 2014 focused on the Middle East Respiratory Syndrome coronavirus (MERS-CoV), which, to date, has primarily affected Saudi Arabia and other countries in the Middle East: as of January 2015, 972 laboratory-confirmed cases have been recorded, with 394 deaths. The threat to Europe is said to be low, but there have been imported cases (and deaths) within the EU, and so it is important for European countries to be prepared in the event of further spread. The case study included three EU Member States: the UK (with a focus on England), Greece, and Spain. Interviews were held with high level informants in the health and

non-health sectors (such as border control, airlines, and civil protection etc.), focusing on five thematic areas: Pandemic preparedness planning; Organisational structures; Resources and capacities; Inter-sectorial connections and interoperability; and Cross-border collaboration.

The second Lot, led by Dr Maria Nilsson, involves organizing and facilitating preparedness good-practice workshops with EU Member States. These are attended by the ECDC National Focal Points for preparedness and response from all EU Member States, along with invited experts, observers from WHO, and the European Commission. An intensive two-day meeting was held in October 2014 at the ECDC premises in Stockholm, with an overall aim to create a forum where participants were given new knowledge and the chance to critically discuss current practices for preparedness for infectious diseases, while also exchanging ideas and experiences from their own work. The program was based on the pandemic 'preparedness cycle', and as such it included sessions on planning and organizing for health threats, training, testing and practicing, and evaluation and improving. International speakers made presentations and a participatory approach was taken throughout the workshop. Following on from the topic of the Case Study from the other Lot, much of the discussion was focused on MERS-Coronavirus, but the ongoing Ebola crisis became an additional and very important topic of discussion.

Collaboration locally and regionally

Medical Faculty - The "Equity in health" theme

Nationally and internationally, health policies aim to reduce health inequalities and increase opportunities for good health on equal terms. Research that contributes to achieving these goals has a population perspective but must also include the individual's own experience a so-called individual perspective. The research includes all stages of life and we know well that health during the earliest years affect the adult's health status. Groups that have had difficulties to make their voices heard are also of particular interest. In recent years, research on the health of the elderly has grown strong. Intersectionality and gender perspectives on health are other areas.

The medical faculty has lately encouraged the creation of themes to strengthen links across the faculty. Within the "Equity in health" theme we aim to provide a platform for students and senior researchers who accept the challenge to work for equity in health to promote networking, interdisciplinary courses and further cooperation in creating strong research groups / environments.

The core of the theme is made up of students and researchers from Department of Nursing, Department of Community Medicine and Rehabilitation, Unit of Epidemiology and global health and the Unit of Social medicine.

Monthly seminars are hold to highlight diverse topics within the area. An appreciated symposium was held October 16-17 with Prof Curt Hagquist, Center for Child and Adolescent Mental Health, Karlstad University and Associate professor Viveca Östberg, Center for Health Equity Studies, Stockholm University. The focus was on equity and adolescent health. A number of PhD students took the opportunity to present their work and discuss with the guests. The plan is to offer an annual symposium within the theme. The activities have started to develop a doctoral course which will take on both methodological aspects and conceptual frameworks starting 2015. Synergies and collaborations are being explored and creative meetings are taking place.

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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 been 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 evidence based methods. 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. This is in many ways due to interchange and collaboration between, on one hand, researchers at the Epi unit and results from the extensive research carried out by the university, and, on the other hand, the administrative, coordinating and supporting team within the County Council, as well as the many VIP-nurses who carry through the program in daily practice. 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 five 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 registries, INCA.

CQN is part of the Västerbotten County Council's infrastructure for R&D, and both run and participate 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 collaborates with Epidemiology and Global Health (EpiGH) in several different ways. We provide joint courses, including a PhD course on register-based research, master-level course in biostatistics, to name a few. We are also exploring the possibilities for partnership in research in health economy, on development of PROM, and for implementation research.

The collaboration is mutually beneficial. By taking part in education at EpiGH, CQN statisticians can provide rootedness in clinical practice, and also develop their skills in statistics and above all epidemiology together with the staff at EpiGH. EpiGH's skills in health economy are important for the development of the format for the feedback from quality registries to health care.

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

Table 3. Seminars during 2014

January	**Lars Lindholm** - Cost-equity analysis – the case of education
	Ryan Wagner - Midterm seminar The Economics of Epilepsy: Modeling cost-effective interventions for the treatment of epilepsy in sub-Saharan Africa
	Fredrik Norström - Logistic regression, how should it be used?
February	**Astrid Norberg** - Caring and Person-philosophy. A seminar within the theme "Equity in Health Workshop: "Health literacy and risk perception: Implications for communicating in the field of Health". Key speaker: Peter Schulz
	Klasse Sahlén et al - Randomized controlled trials in public health – experiences from the Swedish health coach study
	Gloria Mora Guerrero - Political Action and Women's Movements in Latin America. The Cases of Uruguay, México and Chile in the Post-Dictator Period"
	Laila Daerga – Midterm seminar Hälsoaspekter inom renskötseln – att leva i två världar
	Anna Myleus - Causal inference in public health – a philosophical exercise or a guide to action?
March	**Mattias Goldmann** - Fossil free road transports 2030 - how and why?
	Elisabeth Höög – Predissertation Navigera i ständig förändring - facilitering av utvecklingsarbete inom vård och omsorg
	Barbara Schumann - Climate and mortality in pre-industrial northern Sweden
	Regis Hitimana – PhD seminar Cost-effectiveness of maternal health interventions in Rwanda
	Mikkel Quam – PhD seminar Modeling Potential Air-Travel Related Introduction and Emergence of Dengue in Europe
	Prasad Lyianage – PhD seminar Implementation of Early Warning Decisions for Control and Prevention of Dengue in Kalutara (Sri Lanka)
	Kaaren Mathias – PhD seminar What are the components of community mental health competence in the Upper Ganga region of North India and how can they be supported and amplified?
	Jack Lysholm, Anneli Ivarsson and staff from both organizations How to get stronger together? Centre for Registers in Northern Sweden (VLL) and Epidemiology and Global Health (UmU).
April	**Anne Ouma** From rural gift to urban commodity; traditional medicinal knowledge in transition
	Juan Antonio Cordoba – Midterm seminar Economic crisis and health inequalities in Spain and Andalusia
	Curt Löfgren – Midterm seminar Protecting Vulnerable Group from Catastrophic Health Care Expenditure - The Case of Vietnam
	Paola Mosquera Mendez – Dissertation Evaluation of a primary health care strategy implemented in a market-oriented health system: The case of Bogota, Colombia
	Anna-Britt Coe Social movement research and its relevance for global Health
	Viveca Larsson – Dissertation "A suffering heart": on the health of women living with violence in Vietnam
	Julia Schröders – PhD Seminar Interdisciplinary Perspectives on the Chronic Non-Communicable Disease Challenge in a Transitional Lower Middle-Income Country: Evidences from Indonesia
May	**Elisabet Höög** – Dissertation Navigera i ständig förändring - facilitering av utvecklingsarbete inom vård och omsorg
	Bharat Randive - Midterm seminar Study of conditional cash transfer programme for promotion of institutional births: Studies from selected provinces of India
	Joacim Rocklöv Handling of uncertainties in climate change projections
	Tsigemariam Teklu – PhD seminar Epidemiology of Visceral Leishmaniasis and Visceral Leishmaniasis/HIV co infection in North Ethiopia
	Atakelti Abrah - PhD seminar Morbidity and mortality of under 5 year children in Tigray from an equity perspective
June	**Malin Eriksson** Situational Analysis – grounded theory after the postmodern turn

June	**Melissa Scribani –** Midterm seminar Consequences of obesity and determinants of weight maintenance - Moving towards an intervention to stem the tide of the obesity epidemic
	Vijendra Ingole – Midterm seminar A study of weather effects, susceptibilities and potential Impacts of climate Change on mortality in Vadu HDSS, India
	Brian Williams & Jenny Stewart Williams The ***R*** Programming Language: Possibilities for Global Public Health Teaching and Research
August	**Jenny Stewart Williams & Brian Williams** – Seminar and Mini-workshop Introduction to R and the Rcommander GUI
September	**Alison Hernandez** – Pre-Dissertation Enabling the performance of nurses in rural Guatemala: The role of relationships
	Susanna Ragnarsson – PhD seminar Recurrent pain in school-aged children and the relation to academic performance – an epidemiological study
	Hagos Godefay – PhD seminar Supporting the development of evidence-based policies aimed at reducing maternal mortality in Tigray Region, Ethiopia
October	**Jolene Skordis-Worrall** *(UCL Institute for Global Health, UK)* Measuring capabilities and empowerment in low income countries“
	Curt Löfgren – Dissertation Catastrophic health expenditure in Vietnam. Studies of problems and solutions.
	Thaddaeus Egondi – midterm seminar Ambient environmental exposure and related health impacts among urban poor population, Kenya
	Jennifer Crowe – Dissertation Heat exposure and health outcomes in Costa Rican sugarcane harvesters
	Kanyiva Muindi – Midterm seminar Indoor Air Pollution and Adverse Pregnancy Outcomes in Kenya
November	**Fredrik Norström** The evidence from observational studies in comparison with randomized experiments – not as bad as most thinks?
	Nathanael Sirili – PhD seminar Training and deployment of Human resources for health in Tanzania
	Alison Hernandez – Dissertation Enabling the performance of nurses in rural Guatemala: The role of relationships
	Vu Duy Kien - Mid-term seminar Inequalities in chronic non-communicable diseases in urban Vietnam
	Joseph Zulu – Pre-dissertation Integrating community health assistants in the health system in Zambia
	Tesfay Gebrehiwet – Pre-dissertation No woman should die while giving life. Does the Health Extension Program improve access to maternal health services in Tigray, Ethiopia?
	Tej Ram Jat – Dissertation Maternal health and health care in Madhya Pradesh state of India: an exploration using a human rights lens
December	**Daniel Eid Rodríguez** - PhD plan presentation Public health strategies for the control of leishmaniasis in Bolivia
	Martin Hultman - Discourses of Global Climate Change

Education

Public health program students and staff

UISPH – Umeå International School of Public Health

An integral component of the development of the international collaborations has been the International Public Health training, starting from ad hoc training courses and workshops that formed a springboard for the research projects. What started as short courses in epidemiological methods has grown into 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.

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.

The Master Programme in Public Health – the first year (equals the one-year programme)

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 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 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 incoming 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.

This academic year we have 12 new one-year students and 25 new two-year students while 12 students are in their second year, 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.

Since the introduction of tuition fees scholarships from Swedish Institute and other funders have been instrumental for the recruitment of students outside EU. Over the past years the different governments have made several decisions affecting the situation for students from low- and middle income countries. When the effects of the introduction of tuition fees in the reduced number of students applying to Swedish universities became apparent, the number of scholarships was dramatically increased.

After the Swedish election in the autumn 2014 another and equally dramatic reduction in numbers of scholarships was decided, resulting in no scholarships at all for 2015/16. It is very unfortunate for the continuity in running the Master programmes that we have no control over the intake of students from low- and middle income countries through these decisions. The strength of our programmes has always been the mix of students with so many different experiences, and the impact these decisions have on our teaching are of great concern. We hope for a more permanent solution to this problem for the benefit of our students and programmes.

Other scholarships covering the tuition fees have also been introduced, opening up the opportunities for these students to attend our programmes. So, for example, we have been awarded funds from the Erling-Persson Family Foundation making it possible for us to offer scholarships for students from outside EU for a number of years.

Korpen Veteranerna Västerbotten have made a generous donation so that, for a number of years, students can be awarded minor scholarships for high quality theses.

Korpen Veteranerna Västerbotten awarded 3 scholarships for high quality master theses.

Global Health
Next Generation Network

Two students were selected to participate in the first conference for students in the fields of global health throughout Europe. It was organized by students of the Master of Global Health in Barcelona with the aim to create a network of students and young professionals in the field of global health and to provide a platform for the exchange of knowledge, experiences and ideas on global health issues.

Monica Von Brevern and Annika Schmöker (1st and 2nd from the left) participated in the Barcelona conference.

Graduation ceremony June 2014

Master seminars, May 2014

Home country of public health programme students 1991-2014

The importance of scholarships for UISPH

Students receiving scholarships 2014/15

The establishing of scholarships has had a strong impact on our Master programmes keeping the international mix of students that have been our hallmark. We are grateful for generous donations from the Erling Persson Foundation, the Swedish Institute and the Swedish Council for Higher Education making this possible.

At the time of printing this Annual Report a video film is being produced by students and UISPH where the importance of keeping the SI scholarships is expressed. The initiative is supported by Pro-Vice-Chancellor of education Anders Fällström and the Programme Council for the International Master Programme in Public Health (PRPH).

We asked the students what the scholarships have meant for them and here are some of their responses:

Najibullah, Afganistan: *"…Another asset of studying at Umeå University has been meeting my fellow students from different countries and ethnicities. They have come from all around the world and brought up their diverse experiences and cultures. Being exposed with the thoughts, experiences and contribution of a broad variety of professionals from different countries has helped me to gain more insight on the global situation and it also has given me the opportunity for the mutual sharing of experiences".*

Adelaide, Tanzania: *"Before arriving in Umeå, I was informed about almost all the details about how my life here will be like, and that made me a bit at ease with the forthcoming new life. As if that was not enough, there has been a very good communication and support from the administration, and this real matters a lot for a foreign student like me."*

Ali, Iran: *"It is so helpful for me because I feel like it is very difficult to be concentrated on my study while I am concerned about the expenses. And the scholarship eliminates a big part of my* ***costs."***

Kumar, India: *"…So far I have had many wonderful and meaningful experiences, but in all of these, the most rewarding element has been the people I have met. The faculty, course administrators and fellow students from across disciplines and borders with an unpredictable mash up of ideas, world views and experience I have known have shaped my UISPH experience, and each one inspires me to constantly improve. I have been very blessed to be surrounded by such intelligent, caring and passionate people at UISPH.*

UISPH has offered me an impressive list of benefits inside and outside the classroom that made my education more rewarding. The department has an open climate, with a strong focus on group work throughout MPH programme. This will give me

valuable skills for the future. At UISPH what strikes you is a warm and friendly atmosphere. People really care about you and your ideas. Being a member of student council I can say with confidence that student input is unusually strong at UISPH. The department conducts student evaluations after every course. This tends to produce results. I feel extremely happy that I was able to find a department, which aided my self-development to an extent. It will enable me to engage in my work with greater intellectual rigor and broader international perspectives. Thanks to the environment at UISPH, I've been able to realize my goals."

Single subject courses

Almost 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.

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 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 2014 course, 30 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 and at the *Centre for Teaching and Learning* (UPL) in the central course for supervisors at Umeå University.

On the PhD-level the Unit is main responsible for the majority of the research training courses given at the Medical Faculty. 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.

Research training

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

Doctoral day, May 2014

During 2014 60 research students were registered and active at the Unit, 28 men and 32 women. Thirtyeight of them have been recruited within international research collaborations, while 22 are Swedish based research students. In the period 1987 – 2014, 103 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.

Doctoral day, May 2014

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 86 students have been admitted to the School and by end of 2014 33 students had successfully defended their theses. The annual meeting 2014 took place in Malmö 22-23 September, 2014 Two days of the meeting was dedicated to a workshop on leadership facilitated by Dr Bengt Linde, Management Consultant, PhD. H. C., Lund University.

Course in Presentation technique, May 2014

Research school annual meeting in Malmö, September 2014

PhD events during 2014

Paola Mosquera Méndez

Viveca Larsson

Elisabet Höög

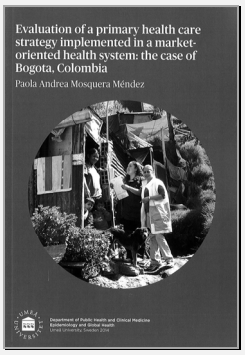
Curt Löfgren

Jennifer Crowe

Alison Hérnandez

Tej Ram Jat

Paola Mosquera Méndez



Evaluation of a primary health care strategy implemented in a market-oriented health system: the case of Bogota, Colombia

Thesis defended: 11 April, 2014
Supervisors: Miguel San Sebastian, Kjerstin Dahlblom, Roman Vega
Opponent: Pol de Vos, Institute of Tropical Medicine, Antwerp, Belgium

Introduction: Despite Colombia having adopted a health system based on an insurance market, Bogota in 2004, as part of a left-wing government (elected for first time in the city), decided to implement a Primary Health Care (PHC) strategy to improve quality of life, level of population health and reduce health inequities. The PHC strategy has been implemented through the HomeHealth program by three consecutive governments over the last eight years in the context of continuous political tension stemming from differences between national and district health policies.

This thesis is an attempt to provide a better understanding of the overall experience of implementing a PHC strategy in the context of a market-oriented health care system. The research aimed to evaluate results of the PHC strategy through the intervention of the Home Health program and to identify factors that have enabled or limited the on-going PHC implementation process in Bogota.

Methods: This study used a combination of quantitative and qualitative methods. A descriptive analysis was performed to assess direct results of the PHC strategy in terms of progress in the Home Health program coverage and increases in health personnel ratios reaching out to poor and vulnerable groups in Bogota. A cross sectional analysis was carried out to evaluate qualities of the delivery of PHC services through the attainment of PHC essential dimensions in the network of first-level public health care facilities. An ecological analysis was performed to estimate the contribution of the PHC strategy, through the Home Health program, to improve child health outcomes and to reduce health inequalities. A qualitative multiple case study was conducted to identify contextual factors that have enabled or limited the on-going PHC implementation process in Bogota.

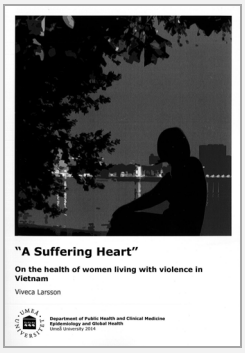
Results: The descriptive analysis showed a notable initial increase and rapid expansion in the development of the PHC strategy between 2004 and 2007, followed by a period of slower growth and stagnation between 2007 and 2010. The cross-sectional analysis suggested that the Home Health program could be helping to improve the performance of first-level public health care facilities. Ratings assigned to PHC dimensions by different participants pointed out the need to strengthen family focus, community orientation, financial resources distribution, and accessibility. The ecological analysis showed that localities with high PHC coverage had a lower risk of under-five mortality, infant mortality and acute malnutrition as well as a higher probability of being vaccinated than low PHC coverage localities. The belonging to a high-coverage locality was significantly associated with risk reductions of under-five mortality (13.8%) and infant mortality by pneumonia (37.5%) as well as increases in the probability of being vaccinated for DPT (4.9%). Concentration curves and concentration indices indicated inequality reductions in all child indicators betwen 2003 and 2007. In 2007 (period after implementation), the PHC strategy was associated with a reduction in the effect of the inequality that affected disadvantaged localities in under-five mortality (24%), infant mortality rate (19%), acute malnutrition (7%) and DPT vaccination coverage (20%). The main facilitators of the results achieved so far by the PHC strategy were all related to the commitment and good will of actors at different levels. Longterm political commitment, support by local mayors and hospital managers, organized communities historically active in the process of social participation, as well as extramural work carried out by community health workers and health care teams were highly valued. Barriers to the implementation included the structure of the national health system itself, lack of a stable funding source, unsatisfactory working conditions, lack of competencies among health workers regarding family focus and community orientation, and limited involvement of institutions outside the health sector in generating intersectoral responses and promoting community participation.

Conclusion: Despite adverse contextual conditions and limitations imposed by the Colombian health system itself, Bogota's initiative of a PHC strategy has helped to improve the performance of first-level public health care facilities in the essential dimensions of PHC and has also contributed to improvement of child health outcomes and reduction of health inequalities associated with socioeconomic and living conditions. Significant efforts are required to overcome the market approach of the national health system. Structural changes to social policies at the national and district level are needed if the PHC strategy is expected to achieve its full potential. Specific interventions must be designed to have well-trained and motivated human resources, as well as to establish available and stable financial resources for the PHC strategy

Viveca Larsson

"A Suffering Heart" - On the health of women living with violence in Vietnam

Thesis defended: 25 April, 2014
Supervisors: Anders Möller, Kjerstin Dahlblom
Opponent: Professor Elisabeth Faxelid, Department of Public Health, Karolinska Institutet



The present study addresses abused Vietnamese women's experience of health, as well as other health problems and family conflicts, while also taking into consideration professional dealings with family violence. Women's health in everyday life is largely affected when they are exposed to violence by their male partners. Such violence exists in most societies around the world, also in the Vietnamese context, where the official policies focus on gender equality, together with a strong family concept. Thus, the present study aims to contribute to an empirical understanding of the relation between women's health and violence against women within the family, from three perspectives: That of the society (organisations and professionals), the neighbourhood community (family members and neighbours), and the individuals (the abused women).

The thesis is based on three qualitative interview studies. To reach the official Vietnamese society, national organisations working against violence were invited to participate and eleven professionals of different positions were interviewed. The semi-structured interviews were analysed with content analysis. To include the neighbourhood community perspectives on health and conflicts in family life, twenty-two men and women of different ages and backgrounds, but without any known history of abuse, participated in sixteen semi-structured interviews. For the third study twelve abused women presented life-stories through indepth interviews. The interviews of study two and three were analysed using narrative approach.

On a professional level, the discussion on violence focus on the abusive men's violent acts, on how to promote good social relations and how to make people in general recognise violence as a public health problem and value gender equality. In family everyday life, the informants consider women as the main responsible for the family well-being, but find cooperative support necessary in daily life. To adjust family life to social change, and to make everyone feel important, means to avoid boredom or distress are strategies used, since such conditions are considered to cause troubled relations, abuse and suffering. Violence within the family is seen as interpersonal problems where both partners are to blame for family dysfunction. Empathic sentiments, mutual support and communication are means to handle problems, and a harmonious and happy family is seen as protecting health.

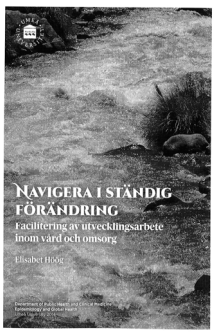
The abused women experience vulnerability, which they see as the foremost threat to their health. Injuries as well as worries cause harm. The abused women blame their husbands, for the violence, but they rarely confront them. Instead they use a number of strategies to handle their situation; through enduring, making their husband's face others judgements, or divorce. They see violence as part of an everyday life of hardship, and consider that bearing too many troubles harms their health.

A coherent approach between the different perspectives is needed if the abused women and their families will have a possibility to experience health. The professionals need to consider both public equality policies and the individuals' experience of vulnerability. The abused women, and abusive men, would benefit from a neighbourhood community that is open to individual failure but still supportive and encouraging. To experience health this study found that it matters what position a person has, what expectations and judgement a person face, how well a person can manage her obligations, and what room for action she possesses.

Elisabet Höög

Navigera i ständig förändring. Facilitering av utvecklingsarbete inom vård och omsorg

Thesis defended: 9 May, 2014
Supervisors: Monica Nyström, Lars Weinehall, Jack Lysholm
Opponent: Docent Rolf Wahlström, Institutionen för folkhälsovetenskap, Karolinska Institutet



Background Health care and social services are complex entities, operating under high demands of quality and safety. There are many areas for development and new findings on what can be improved are presented continuously. To meet these demands and options organizations engage in efforts to change and develop what they do, and how they do it. Many interventions and methods are at hand, but it has proven difficult to answer the question of what works where and when. It is also stressed that an even more important question is how and why things work, or do not work. This thesis is focused on the facilitation of organizational development and quality improvement efforts. While a lot of research is found on the facilitation of improvement work in smaller workgroups, there is less on the more strategic and system-wide facilitation of organizational development and quality improvement. By following the facilitation of change and development work in three cases I aim to generate knowledge on the challenges in and the potential of using facilitation teams.

Methods The thesis is based on four studies from three empirical cases. In all case settings, the teams had the task of facilitating system-wide organizational development and quality improvement, covering geographical regions with several actors, organizations, units and decision levels. Key respondents where the facilitation team members, and data was also collected from other key actors involved in development efforts. Data collection included semi structured interviews, process diaries with defined areas for reflection, observations and archival data such as minutes, information sheets, presentations, annual reports and project reports. Qualitative data was analysed using content analysis, which is “a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding”. The two keystones for the type of content analysis used are the clear definitions of categories and mutually exclusive and exhaustive categories. Validity is strengthened by triangulation of data from multiple sources and reliability, when possible, by independent classification of data by two researchers.

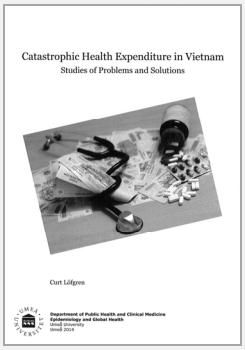
Results Data from the three empirical cases show patterns of challenges as well as common promising prospects for facilitation of change and development in health care and social services. Challenges were identified within the formal and informal aspects of facilitation teams, in composition and organizational positions of facilitating teams, and in their understanding of premises, change and development processes. Results also revealed important factors influencing the possibilities to apply a facilitating approach that would be sustainable, serving the perspectives of a multi-level organization and building capacity for continuous development and improvement in the organisations, as well as within the facilitating teams.

Conclusion Sustainable change and development work in health care and social services organizations must be built on solid and multifaceted information, great understanding of processes in a broad sense and an ability to function in continuous change. There seems to be a great potential in having teams function with a role and mandate to facilitate organizational development and quality improvement processes through capacity building. This capacity building involves the facilitating team, the staff and management of the organization, and the forms and structures of planning, and implementation and follow-up systems where daily work and improvement efforts are interlinked. It is unclear where analysis and reflection on development work and improvement processes are carried out in health care and social services organizations today. Facilitating teams could be the hub of such an ongoing process, provided that they have the capacity, mandate and trust to fullfill such a function.

Curt Löfgren

Catastrophic health expenditure in Vietnam. Studies of problems and solutions

Thesis defended: 10 October, 2014
Supervisors: Klas-Göran Sahlén, Lars Lindholm, Anna-Karin Hurtig
Opponent: Professor Karen Hofman, Faculty of Health Sciences, School of Public Health, University of Witwatersrand, South Africa



Background: In Vietnam, problems of high out-of-pocket payments for health, leading to catastrophic health expenditure and resulting impoverishment for vulnerable groups, has been at focus in the past decades. Since the beginning of the 1990's, the Vietnamese government has launched a series of social health insurance reforms to increase prepayment in the health sector and thereby better protect the population from the financial consequences of health problems.

Objective: The objective of this thesis is to contribute to the discussion in Vietnam on how large the problems of catastrophic health expenditure are in the population as a whole and in a special subgroup; the elderly households, and to assess important aspects on health insurance as a means to reduce the problems.

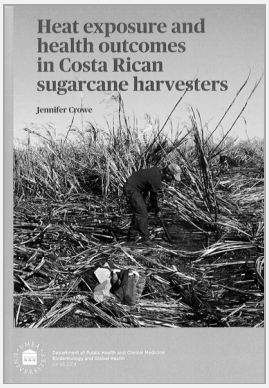
Methods: Catastrophic health expenditure has been estimated, using an established and common method, from two different data sources; the Epidemiological Field Laboratory for Health Systems Research (FilaBavi) in the Bavi district, and Vietnam Household Living Standards Survey (VHLSS) 2010. Results from two cross-sectional analyses and a panel study have been compared, to gain information on whether the estimates of catastrophic health spending may be overestimated when using cross-sectional data. Then, the size of the problem for one group, the elderly households; hypothesized to be particularly vulnerable in this context, has been estimated. The question of to what extent a health insurance reform; the Health Care Funds for the Poor (HCFP), has offered protection for the insured against health spending is being assessed in another study over the period 2001 – 2007, using propensity score matching. The value that households attach to health insurance has also been explored through a willingness to pay (WTP) study.

Results: Comparing results from two cross-sectional studies with a panel study over a full year in which the respondents were interviewed once every month, the estimates of catastrophic spending vary largely. The monthly estimates in the panels study are half as large as the cross-sectional estimates; the latter also having a recall period of one month. Among the elderly households, catastrophic health spending and impoverishment are found to be problems three times as large as for the whole population. However, household health care expenditure as a percentage of total household expenditure was affected by the HCFP, and significantly reduced for the insured. In the study of household WTP for health insurance, it was iiifound that households attach a low value to this insurance form; WTP being only half of household health expenditure.

Conclusions: Cross-sectional studies of catastrophic spending with a monthly recall period are likely to be affected by recall bias leading to overestimations through respondents including expenditure in the period preceding the recall period. However, such problems should not deter researchers form studying this phenomenon. If using the same method, estimates of catastrophic spending and impoverishment can be compared between different groups – as for the elderly households – and over time; e.g. studying the protective capacity of health insurance. It should be used more, not less. The VHLSS rounds offer the Vietnamese a possibility to regularly study this. The HCFP were found to be partly protective but important problems remain to be solved, e.g. the fact that people are reluctant to use their health insurance because of e.g. quality problems and possible discrimination of the insured. The findings of a low WTP for health insurance may be another reflection of this.

Jennifer Crowe

Heat exposure and health outcomes in Costa Rican sugarcane harvesters



Thesis defended: 24 October, 2014
Supervisors: Maria Nilsson, Catharina Wesseling, Tord Kjellström
Opponent: Professor Linda Forst, Environmental and Occupational Health Sciences, School of Public Health, University of Illinois at Chicago, USA

Background The remarkably efficient mechanisms of the human body to maintain its core temperature of 37°C can be inadequate when harsh climatic conditions and excessive muscle movement lead to heat stress, dehydration and potential heat illness, ranging from minor symptoms such as fatigue to a potentially fatal heat stroke. Agricultural workers in the tropics are at high risk, which is expected to increase with climate change. Sugarcane harvesting in Costa Rica is largely done by cutting the cane with a machete, by temporary, sub-contracted workers who are often migrants and living in poverty. Sugarcane harvesters are known to be affected by an epidemic of chronic kidney disease of non-traditional origin, currently hypothesized to be related to working conditions.

Objectives This work aimed to better understand and document sugarcane harvester exposure to heat and the health consequences of working under such conditions. Specific objectives were to 1) Document working conditions and heat in the Costa Rican sugarcane industry (Paper I); 2) Quantify heat stress exposures faced by sugarcane harvesters in Costa Rica (Paper II); and 3) Quantify the occurrence of heat stress symptoms and abnormal urinary parameters in sugarcane workers in Costa Rica (Papers III and IV).

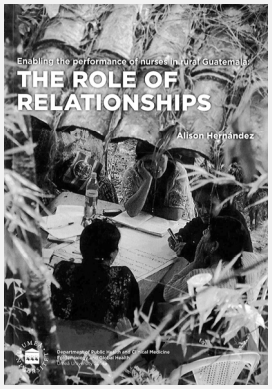
Methods This study took place over three harvests following a pilot assessment prior to the first harvest. Methods included direct observation, semi-structured interviews with 24 individuals and a participatory workshop with 8 harvesters about heat-related perceptions, exposures and coping strategies during the harvest and non-harvest season (Pilot). Researchers accompanied workers in the field during all three harvests, measured wet bulb globe temperature (WBGT) and conducted direct observation. Heat exposure assessment was conducted by calculating metabolic load, WBGT and corresponding limit values based on international guidelines (NTP and OSHA) (Harvest 1). Self-reported symptom data were collected using orally-administered questionnaires from 106 sugarcane harvesters and 63 non-harvesters from the same company (Harvest 2). Chi-square test and gamma statistic were used to evaluate differences in self-reported symptoms and trends over heat exposure categories. Finally, liquid consumption during the work shift was documented and urinalysis was conducted pre-and post-shift in 48 sugarcane harvesters on three days; differences were assessed with McNemar´s test on paired proportions (Harvest 3).

Results Sugarcane workers in both the harvest and non-harvest seasons are exposed to heat, but particularly during the harvest season. Field workers have to carry their own water to the field and often have no access to shade. Some plantworkers are also exposed to intense heat. The metabolic load of sugarcane harvesting was determined to be 261 W/m2. The corresponding threshold value is 26 ◦C WBGT, above which workers should decrease work load or take breaks to avoid the risk of heat stress. Harvesters in this study were at risk of heat stress as early as 7:15 am on some mornings and by 9:00 am on all mornings. After 9:15 am, OSHA recommendations would require that harvesters only work at full effort 25% of each hour to avoid heat stress. Heat and dehydration symptoms at least once per week were experienced significantly more frequently among harvesters than non-harvesters ($p<0.05$): headache, tachycardia, fever, nausea, difficulty breathing, dizziness, and dysuria. Percentages of workers reporting heat and dehydration-related symptoms increased over increasing heat exposure categories. Total liquid consumed ranged from 1 to 9 L and differed over days (median 5.0, 4.0 and 3.25 on days 1, 2 and 3 respectively). On these same days, the two principle indicators of dehydration: high USG (≥1.025) and low pH (≤5), changed significantly from pre to post-shift ($p=0.000$ and $p=0.012$).Proportions of workers with proteinuria >30 mg/dL, and blood, leucocytes and casts in urine were also significantly different between pre and post-shift samples at the group level, but unlike USG and pH, these alterations were more frequent in the pre-shift sample. 85% of workers presented with proteinuria at least once and 52% had at least one post-shift USG indicative of dehydration.

Conclusion Heat exposure is an important occupational health risk for sugarcane workers according to international standards. A large percentage of harvesters experience symptoms consistent with heat exhaustion throughout the harvest season. Pre and post-shift urine samples demonstrate dehydration and other abnormal findings. The results of this study demonstrate an urgent need to improve working conditions for sugarcane harvesters both under current conditions and in adaptation plans for future climate change.

Alison Hérnandez

Enabling the performance of nurses in rural Guatemala: The role of relationships



Thesis defended: 14 November, 2014
Supervisors: Miguel San Sebastian, Anna-Karin Hurtig, Kjerstin Dahlblom
Opponent: Professor Dr Bart Criel, Institute of Tropical Medicine, Antwerp, Belgium

Background: Enhancing the performance of front-line health workers serving vulnerable populations is crucial for redressing inequities. Traditional approaches have focused on introducing technical solutions, such as guidelines and incentives, to modify performance outcomes. Recognition of the complex social nature of health system function draws attention to the intangible software elements that shape performance, including the values, ideas, interests, and norms that guide human behavior and interactions. Insight into the operation of software elements can provide a base for people-focused solutions to support health workers and enable them to confront constraints in low resource settings. This study examines the social environment of the practice of front-line auxiliary nurses (AN) in rural Guatemala, in order to understand the role of health system software elements in enabling their performance and to gain insight into how organizational support can be strengthened through locally-relevant actions.

Methods: A mixed methods approach provided a multi-level view of the AN practice environment, situated in the regional health system of the rural department of Alta Verapaz. Interviews with ANs and observations of practice were conducted to understand the values orienting them and how these shaped their relationships with patients and communities. A theory-driven case study of AN supervision was conducted in selected health posts to understand the values orienting supervisors in their role and examine how these shaped their relationships with ANs. The participatory method of concept mapping was used to examine the views of health workers, district and regional managers on actions to strengthen organizational support for the performance of ANs.

Results: The values of nursing vocation and community connectedness were prominent in ANs' interpretations of their work. In relationships, nursing principles oriented them to be attentive to understanding patient needs, and a shared ethnic identity and personal experience of local needs served as a base for engaging with local leaders in community work. The dominant orientation of supervisors in their role was managerial control, and it provided limited support. It contributed to standard-centered relationships with ANs focused on fulfillment of ministry criteria. Supervision oriented by a holistic understanding of ANs' needs and the goal of improving patient care was more successful in enabling AN motivation. This relationship was characterized as people-centered, based in a shared interpretation of the value of work with patients and the responsive support provided to ANs' problems. "Organizational climate of support across levels", where working relationships are characterized by respectful treatment, attention to psycho-social well-being and responsiveness to needs, was identified by health-system actors as a top priority for improving performance.

Conclusions: To enable performance, there needs to be a balance between attention to standards and attention to the human dimensions of health worker practice. The dominant approach to supervision did not recognize or build on AN values. Supervision and management should be oriented by a more holistic view of the ANs' work and their needs, in order to promote a people-centered approach to working relationships. Locally relevant action to strengthen district and regional management's support for AN performance should focus on operationalizing performance goals that go beyond standards to encompass care that responds to patient and community needs.

Tej Ram Jat

Maternal health and health care in Madhya Pradesh state of India: an exploration using a human rights lens

Thesis defended: 28 November, 2014
Supervisors: Miguel San Sebastian, Anna-Karin Hurtig, Isabel Goicolea
Opponent: Professor Karen Marie Moland, University of Bergen, Department of Global Health and Primary Care, Norway

Pregnancy and motherhood are natural processes in the lives of women of reproductive age. These processes are generally considered to be positive and fulfilling experiences. However, for various reasons, many women end up dying as a result of these processes. Improving maternal health and reducing maternal mortality are accepted as human rights challenges and prioritized in several international declarations and national policies. However, progress in achieving these objectives still remains poor.

This thesis aims to explore the maternal health and healthcare in the Indian state of Madhya Pradesh through a human rights lens. A human rights lens provides a framework to study various aspects of the problem of maternal health from a human rights perspective. It helps in highlighting the gaps and challenges related to political priority, sociocultural, economic and individual-level factors and the availability, accessibility, acceptability and quality of maternal healthcare services. A combination of quantitative and qualitative research methodologies was applied in four sub-studies conducted in Madhya Pradesh. The specific objectives were: to investigate, by using John W. Kingdon's multiple-streams model of agenda setting, why and how maternal health became a political priority in the state (Paper I); to estimate the effects of individual-, community- and district-level characteristics on the utilization of maternal health services with special reference to antenatal care, skilled attendance at delivery and post-natal care (Paper II); to analyse sociocultural and service delivery related dimensions of maternal deaths in rural central India through a human rights lens (Paper III); and to evaluate the technical efficiency of the public district hospitals using data envelopment analysis (Paper IV).

The findings of the first qualitative study indicated that various developments at international, national and state level brought the issue of maternal health to the priority political agenda in Madhya Pradesh state. This resulted in the introduction of new policies and programmes and more resources were allocated for improving maternal health. However, several challenges still remain in ensuring proper implementation of these programmes and policies. The quantitative study on factors affecting the use of maternal health services revealed that 61.7% of women used antenatal care at least once, 49.8% of women used skilled attendance at delivery and 37.4% of women used post-natal care during their most recent pregnancy. The household's socio-economic status and mother's education emerged as the most important factors associated with the use of antenatal care and skilled attendance at delivery. Delivery by skilled personnel and the use of antenatal care were the most important factors in the use of post-natal care. This study highlighted the need to identify and focus on community- and district-level intervention along with addressing the individual-level factors.

The findings of the third qualitative sub-study revealed that all pregnant women in the study tried to access medical assistance for obstetric complications but various factors delayed appropriate care. The underestimation of complication symptoms by family members, gender inequity and the negative perceptions regarding delivery services deferred decisions to seek care. Transportation problems and care seeking at multiple facilities also constrained timely reaching of appropriate health facilities. Negligence by health staff in providing care, and unavailability of blood and emergency obstetric care services, delayed the receiving of adequate care after reaching a health facility. This study indicates that normative elements of a human rights approach to maternal health, i.e. availability, accessibility, acceptability and quality, were not fully upheld. The deceased women and their relatives were unable to claim their entitlements and the duty bearers could not meet their obligations despite their conscious efforts to improve maternal health. In the last study, the results of data envelopment analysis revealed that half of the district hospitals (20) in the study were operating inefficiently.

This research establishes a need to give special attention to addressing challenges in the maternal health programmes at the implementation level as well as tackling the social determinants of maternal health. In order to increase the utilization of maternal health services in the state, the need to identify and focus on community- and district- as well as individual level interventions is emphasized. In order to prevent maternal deaths, a need for further concentrated efforts is underlined with a view to honouring human rights elements of maternal health by better community education, women's empowerment and health system strengthening with the provision of appropriate and timely services including emergency obstetric care of good quality. It also highlights a need to identify the causes of the observed inefficiencies and to take appropriate measures to increase the efficiency of district hospitals.

Table 4. PhD students registered at the unit 2014.

Name	Background	Thesis subject
Juan Cordoba	MD, MPH	Economic crisis and health inequalities in Spain and Andalusia
Jennifer Crowe	BSc biology, MPH *(Dissertation 2014)*	Exposure to extreme heat in sugarcane harvesters in the face of climate change
Laila Daerga	Nurse	Hälsoaspekter inom renskötseln – att leva i två världar.
Atakelti Derbew	MSc Public Health	Under 5-year morbidity and mortality in Tigray Region, Etiopia: anequity perspective.
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
Rakhal Gaitonde	MD	
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
Tsigemariam Teklu Gebereslassie	BSc Public Health	Epidemiology of Visceral Leishmaniasis and epidemiological interaction with concomitant infections in north Ethiopia.
Hagos Godefay Debeb	MPH	Supporting the development of evidence-based policies aimed at reducing maternal mortality in Tigray region, Ethiopia
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
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 *(Dissertation 2014)*	Health service delivery in rural Guatemala: Supporting the performance of auxiliary nurses
Regis Hitimana	MSc Epidemiology	Cost-effectiveness of maternal health interventions in Rwanda.
Elisabet Höög	MA occup. Psychology *(Dissertation 2014)*	Implementation challenges in health and social care organizations: Seeking obstacles, finding opportunities
Vijendra Ingole	MSc	A study of weather effects, susceptibilities and potential impacts of climate change on mortality in Vadu HDSS, India
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
Kateryna Karhina	MPH	The role of social capital and gender for mental health. Comparative studies between Sweden and Ukraine

Name	Background	Thesis subject
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
Viveca Larsson	Anthropology *(Dissertation 2014)*	"A suffering heart". On the health of women living with violence in Vietnam
Prasad Liyanage	BSc Medicine and bachelor of surgery	Implementation of Early warning decisions for control and prevention of dengue in Kalutara (Sri Lanka)
Utami Puji Lestari	Nurse	Risk factor of type 2 diabetes and their trends in Purworejo district, Indonesia
Lubin Lobo	MA theology	The right to health of asylum seekers in Sweden
Anna Lundgren	MD	Visualisering av asymptomatisk arterosklerotisk sjukdom inom VIPVIZA projektet – Aspekter av nya metoder för optimal primärprevention av kardiovaskulär sjukdom
Curt Löfgren	Fil kand (Dissertation 2014)	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
Karen Mathias	MPH, Fellow of New Zealand Coll of Public Health Med	Assessing the components of community mental health competence in the upp Ganga region of north India. Can they be supported an amplified?
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 (Dissertation 2014)	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
Trang Phan Minh	MD, MPH	Weather and weather extremes in association to mental health among adults in Vietnam
Mikkel Quam	MSc international health	Modeling potential air-travel related introduction & emergence of dengue in Europe
Susanne Ragnarsson	Nurse	Recent pain in school-aged children and the relation to academic performance – an epidemiologic study

Name	Background	Thesis subject
Tej Ram Jat	MSc health policy *(Dissertation 2014)*	Maternal health and emergency obstetric care in Madhya Pradesh state of India: A case study of Khargoue district
Aditya Ramadona	MSc Environmental science	Developing and validating a dynamic model of dengue transmission with application to early warning and climate change projections
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
Julia Schröders	MPH	Interdisciplinary perspectives on the chronic non-communicable disease challenge in a transitional lower middle-income country: evidences from Indonesia
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
Anna Stenling	Civ ing, Ek kand	Hälsoekonomisk utvärdering av hjärt-kärlförebyggande befolkningsintervention – Västerbottens hälsoundersökningar
Sulistyawati	MPH	Mapping human health vulnerability and response to climate change in Yogyakarta, Indonesia
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
Moses Tetui	Sociologist, MPH	Participatory approaches to program design and implementation: lessons from a maternal health program in Eastern Uganda.
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
Juan Cordoba	MD, MPH	Economic crisis and health inequalities in Spain and Andalusia
Jennifer Crowe	BSc biology, MPH *(Dissertation 2014)*	Exposure to extreme heat in sugarcane harvesters in the face of climate change
Laila Daerga	Nurse	Hälsoaspekter inom renskötseln – att leva i två världar.

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Atakelti Derbew	MSc Public Health	Under 5-year morbidity and mortality in Tigray Region, Etiopia: anequity perspective.
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