

Welcome to the web based questionnaire for Strategic Research Environment! Before you start reporting, make sure to read the instruction and prepare the Excel files that has been attached in a previous e-mail.

**FRÅGA 1**

This report concerns the project named **Epidemiology for Health (EpiHealth)**.

If you have more than one project to report, please be sure that you fill in the information in the relevant report!

**FRÅGA 2**

**A. GENERAL QUESTIONS**

**FRÅGA 3**

**A1. What effect has the strategic research initiative(s) had on your university?**

As a comprehensive university encompassing natural science, medicine, engineering, humanities, social sciences, a business school, law and a faculty of performing arts, Lund University has a large research potential with both breadth and depth. The breadth is decisive for taking on grand challenges where constellations of competencies across disciplinary and faculty boundaries are typically required. In that context, the nine strategic research areas that Lund University is leading, as well as the three strategic research areas that Lund University is participating in, is central. Also, they play a key role for driving the dynamics of the knowledge triangle, integrating research, innovation and education.

The size and complexity of the strategic research areas call for advanced leadership. In 2010, Lund University, therefore, has started two new types of leadership programmes. One of them is tailored to the coordinators and deputy coordinators of the twelve strategic research areas (one course tokens) and one is dedicated to Tomorrow's research leaders with a gender and equality perspective (three course tokens). Altogether, there are ninety participants and each course extends over a two-year period.

Our strategic research area is called "Epidemiology for Health" (EpiHealth) for which Lund University (LU) is responsible, however in collaboration with the Uppsala University (UU). The funding is shared 60% versus 40%.

One important and already visible effect of EpiHealth is that a survey of all ongoing epidemiological projects at LU and UU has been carried out. This survey has revealed a great number of projects, both within and outside the Faculties of Medicine, that can be regarded as projects dedicated to epidemiology in a broad sense. This was not obvious before the survey and has led to a higher appreciation of the different ways that epidemiological research can be developed, also across Faculty borders.

We have defined the strategic area itself based on information collected from individual researchers as well as research groups. This means that EpiHealth encompasses research and development within three areas: (a) Basic epidemiology (genes, genetic- and gene-environment interactions); (b) Infrastructures (biobanks, registers, bioinformatics, biostatistics); and (c) Clinical epidemiology (data from populations or cohorts of patients, health economy, surveillance of infectious epidemics, etc.). In total, we have identified around 120 names of senior researchers in epidemiology at the two universities, as well as a high number of PhD students and technical staff, representing a critical mass of knowledge, experience and bold ambitions for the future.

A new initiative for education of research leaders at LU has involved not only the two leading persons of EpiHealth (Nilsson, Orho-Melander) but also five selected younger researchers for academic leadership in the future (Karin Källén, Martin Englund, Jonas Manjer, Valeriya Lyssenko and Jonas Manjer).

## FRÅGA 4

**A2. Describe the model according to which the resources have been allocated?**

Of the Governments strategic research funding of 6 000 000 SEK to EpiHealth, 40% has been allocated to the co-applicant at the Uppsala Universty (UU) according to the distribution given in the application and decision taken by the Government.

The allocation of funding within EpiHealth has been suggested by the joint collaboration board, having representatives from both Lund University and Uppsala University. The final decision has been taken within each university according to internal rulings.

Of the funding of 3 600 000 SEK allocated to use within Lund University, 5% has been used for actions benefitting all twelve strategic research areas within Lund University, such as two leadership programmes, common administrative support and coordination, coordinated profiling and communication and an internal council for research infrastructure to enhance strategic planning and quality assurance. The rest of the funding to Lund University has been allocated to the internal board of EpiHealth for further distribution according to the suggestions given by the collaboration board.

Within EpiHealth we have established three research priority areas: (a) Basic epidemiology (focus on genes and gene-environmental interaction analyses); (b) Infrastructures (development of resources such as biobanks, biostatistics and bioinformatics as well as post-doc advanced training course); and (c) Clinical epidemiology (focus on clinical aspects of health care, health economics, registers based on diagnoses, social epidemiology, and documentation of primary health care medical contacts).

We have allocated the EpiHealth financial resources to these three areas. Besides that we have also used additional funding (0.5 mkr/year for three years) provided by the Faculty of Medicine at LU for strengthening the collaboration and interaction between researchers in nearby Lund and Malmo ("Local EpiHealth"). This is of great importance as there have been some obstacles to this process in the past. At UU all the financial resources allocated to EpiHealth has been forwarded to the local representative (Lars Lind) for use in the project, most importantly for planning and starting of the EpiHealth Screening project in 2011.

To ensure an effective allocation of resources, a leadership structure has been implemented for EpiHealth - for details se question 10b.

## FRÅGA 5

**A. GENERAL QUESTIONS**

## FRÅGA 6

**A3. What effect has the strategic research initiative(s) had on the co-applicant university/universities (if any)?**

Uppsala University has launched two projects: Epi-Meta-Health, an effort to merge databases from existing cohorts for replication studies and for performing studies regarding less common diseases where large cohorts are needed, and the EpiHealth Cohort, a plan to enrol 300,000 Swedes, between 45 and 75 years of age, in order to study the interplay between genes and life-style factors on the development of common disorders seen in the middle-aged and the elderly. The creation of these two EpiHealth-based projects has provided a basis for collaboration of scientists across several institutions in Uppsala. The Epi-Health cohort is also a driver of the creation of modern biobanking techniques and standards and will be a major player for the Science for Life Laboratory. Due to EpiHealths comprehensive and immediate demands for biobanking, Uppsala University in collaboration with the county council has managed to create an infrastructure for biobanking that will meet the requirements from EpiHealth from March 2011.

## FRÅGA 7



**A4. Will the university monitor and assure the development within the strategic research environment(s)? Please state how and why.**

Lund University has started a developmental project exploring the opportunities offered by the autonomy reform in Sweden. The project aims at providing the vice-chancellor with a basis for decision making in 2011 concerning organizational changes at Lund University. One of the sub-projects addresses problems, solutions and added values with research transcending departmental and faculty boundaries and aims, among other things, at proposing means for strengthening the strategic research areas. In 2011 a first internal evaluation process will be conducted in the form of an external committee providing the nine strategic research areas that Lund University is leading, as well as the three strategic research areas that Lund University is participating in, and the faculty and university leadership with feedback and advice. In 2013 an overarching quality assessment exercise encompassing all research and innovation (RIQ13) at Lund University will be conducted.

RIQ13 will provide an opportunity for Lund University to systematically compare strengths and weaknesses with organizing research in the form of strong research areas with problem-driven research on the one hand and departmental, discipline-driven research on the other. Innovation and the ability of the strategic research areas to constructively interact with industry, authorities, organizations and stakeholders will be an important supplement to research excellence in RIQ13.

An important part of the sustainability of the strategic research areas is access to relevant research infrastructure (instruments, databases/archives, clinical materials/bio-banks, and expert technical staff). Here, a combination of efforts and support on a national and on a local level is needed. Lund University has instigated an internal council for research infrastructure to enhance strategic planning and quality assurance. The council has begun a dialogue with the Swedish Research Council (VR) and its Committee for Research Infrastructure (RFI). VR:s new policy focusing on national research infrastructure is an important initiative from the point of view of the strategic research areas. At the same time, research infrastructure in the range between one and ten million SEK is put at risk. An initiative on the part of the Government tailored to the needs of the strategic research areas would be welcome.

An annual report including resource allocation, research performed and follow-up of the strategic plan should be submitted to the Dean of the medical faculty after the end of each year.

The Faculty of medicine at LU is represented by one member (Bengt Jeppsson) in the joint collaborative board (JCB) of EpiHealth.

## FRÅGA 8



**B. DESIGN**

**B1. Strategic research programme**

## FRÅGA 9



## a. List and describe the major challenges of the strategic research programme.

We foresee and have defined the following challenges for EpiHealth:

1. To define the research area of epidemiology/biostatistics, not only as a supportive auxiliary science for other research areas, but also as an area in need of its own scientific development according to methods, model testing and usefulness for planning of health care and assessment of quality of health care.
2. To overcome divisions from the past, but still visible to some extent, between different scientific disciplines (within or outside the Faculty of Medicine) as well as between geographical areas (Lund-Malmö and Lund-Uppsala, respectively) and between scientific cultures (basic science and clinical or applied sciences).
3. To focus not only on rich epidemiological materials from the past (existing registers, biobanks) but to plan, organise and carry out a bold new screening project directed to middle-aged and elderly Swedish citizens (45-75 years old) to form the new EpiHealth Cohort. This will be of great significance, not only based on its own merits, but also as a cohort that may interact and collaborate with the ongoing LifeGene project (health screening and biobanking of age groups 0-45 years). Another potential use will be to form a population-based control cohort, with a biobank, from the middle-aged and elderly population, to compare data from diagnose-based registers and biobanks within the health care sector (based on a national application submitted to the Wallenberg Foundation of all Swedish Universities in 2010, evaluation pending, for 350 mill SEK).
4. To develop the infrastructure with recruitment of new and skilful co-workers, both in senior positions and as younger post-docs for national and international excellence in epidemiology. This also means the strengthening of other infrastructures (biobanks, registers, biostatistics, data management).
5. To develop national and international contacts to strengthen EpiHealth and its ambition to create new ways to develop epidemiological research - from basic science to clinical applications. This involves the collaboration with public institutions, private enterprises as well as the media and organisations of patients and lay people.
6. To broaden the basis for epidemiological research by invitation and support of researchers from both genders, from different cultural and ethnic backgrounds and countries, and from different scientific areas and institutions.

Of special interest is that this strategic research area on a national level (EpiHealth) is also supported by extra local funding from the Faculty of Medicine, Lund University, LU (called "Local EpiHealth") with 0.5 mill SEK annually for three years. This is a way to support the local infrastructure and collaboration between researchers in Lund and Malmö, across borders between Faculties and Research Centres.

## FRÅGA 10

**b. Describe the initiatives taken to meet these challenges.**

1. We have started to define the research area that EpiHealth represents by bringing researchers together for seminars and conferences (one held on 4-5th May 2010 in Skanör) and to invite researchers to contribute to a Project Catalogue available to all interested at our web site ([www.med.lu.se/epihealth](http://www.med.lu.se/epihealth)). When EpiHealth was launched we held a total of 5 seminars in Lund and Malmö to discuss the platform and the strategy. Similar activities were held at the Uppsala University (UU). In December 2010 a list of approximately 120 names of senior researchers in epidemiology from LU and UU was created. In addition, we hope to invite researchers also from other universities and institutions to participate in the EpiHealth activities and in the Project Catalogue. This is a way to show the open policy of EpiHealth, being a hub for epidemiological research of national importance and excellence. For the Skanör conference in May 2010 researchers from the Jönköping and Umeå Universities were also invited. This will continue also in 2011 with new conferences, one to be held outside Uppsala for two days on 9-10th May.
2. In order to overcome divisions we have arranged meetings and seminars for researchers from both Lund and Malmö at several occasions. In addition a joint Public Information Day for EpiHealth was organised on November 17th 2010, with representatives not only from Lund and Malmö telling about their projects, but also from the surrounding society, e.g. from Astrazeneca AB, Lund, and the IHE (Institute for Health Economics, Lund). The web site ([www.med.lu.se/epihealth](http://www.med.lu.se/epihealth)) is another way to bring researchers together, also from other scientific areas outside the Faculty of Medicine, e.g. from the Lund Technical University (LTH) and the Center for Economics, Lund.
3. The new screening project (EpiHealth Middle-aged and Elderly Cohort) has been planned over the last 9 months in collaboration between LU (contact: Sölve Elmståhl) and UU (contact: Lars Lind). An application to the Regional Ethics Committee in Uppsala for the screening project was approved in December 2010. The first screening is planned to start in Uppsala in April 2011 and in Malmö after the Summer 2011. Staff (research nurses) will be employed to do this, and biobanking will take place in close collaboration with BBMRI.se (contact: Joakim Dillner) where EpiHealth is also represented in a national board (LU: Peter Nilsson, UU: Lars Lind).
4. We aim to develop the infrastructures in several ways. A new position as Professor of Medical Epidemiology will be announced in early 2011 at the Faculty of Medicine, LU, after planning and internal discussions in 2010. The financial support for this professorship will come from EpiHealth. There will also be a focus on developing of new methods. Another way to develop infrastructures is to collaborate with our Danish colleagues in epidemiology within a new project belonging to EU Interreg that was preliminary approved in December 2010, but now finally approved after signing of documents in February 2011. This means a funding of 1.9 mill Euros to be shared between Danish and Swedish researchers (shared on the Swedish side by LU-EpiHealth 90% and the Region Skåne Local Health Authority 10%) with the aim to support infrastructures and register-based research in cardiovascular epidemiology. The project is planned to start in early 2011 and will be officially represented at a conference for EU Interreg in Malmö on 23-24th March 2011.
5. There is a multitude of useful national and international contacts for EpiHealth. From LU we have excellent contacts internationally with Cambridge, UK (the EPIC-Interact EU project) and with Pisa, Italy (the EGIR-RISC EU project, the IMI SUMMIT project) as well as with the Broad Institute, Boston, USA (genetics) and Stanford University, USA (social epidemiology, migration). In addition researchers in Lund lead local hubs of the METALUND (contact: Maria Albin) and SIMSAM (contact: Anna Rignell-Hybom) national programmes focusing on environmental and occupational health, applying a life course perspective from the fetus and the newborn to the old. In Uppsala, similar activities are ongoing based on excellent contacts with the Framingham Research Centre, USA, as well as with Universities in Paris and other centres. In Sweden the contact with the Medical Birth Register at the National Board of Health and Welfare (Socialstyrelsen) is of great importance because it involves EpiHealth (contact: Karin Källén) with a national authority, influencing guidelines and clinical recommendations for deliveries of newborn babies, born pre- or post-term.
6. We have tried to broaden the basis of EpiHealth by financially supporting a male PhD student in health economy at LU (Sanjib Saha) for 2 months, as well as a female guest researcher (Gerrie-Cor Gast) in nutritional epidemiology from the Utrecht University, the Netherlands. To aim for an equal representation of men and women in the leadership of our Strategic Research Area is a declared strategy that we apply in EpiHealth. In the current executive group of the joint collaborative board (JCB) we have 2 women (Maria Albin, Marju Orho-Melander) and 2 men (Sölve Elmståhl, Lars Lind) with the Coordinator (Peter M Nilsson) leading the work.

## FRÅGA 11



**c. Are there any major changes in the research programme compared to the plan given in the application [year 1]/at the last follow-up [year 2-4]? Please, describe and motivate. This information is important in order to monitor the development of the strategic research environment.**

In the original application (see PDF at our web-site [www.med.lu.se/epihealth](http://www.med.lu.se/epihealth)) we listed our goals. The most important were for the first year: (a) to establish an infrastructure for leadership and organisation; (b) to create an interactive and informative web-site; (c) to hold seminars and educational courses; (d) to plan for the EpiHealth Screening Cohort; (e) to develop contacts with enterprises, authorities and institutions, and (f) to promote national and international excellence.

We have been able to fulfill these goals, more or less, as indicated below. However, due to financial restrictions in the allocated budget for EpiHealth we have had to down-size the screening cohort project to include in a first pilot phase 2011-2012 not more than 6000 middle-aged or elderly subjects. After finalising this pilot project, we have to re-evaluate our project plan for the main screening study that was originally planned to include approximately 300,000 subjects aged 45-75 years. This is estimated to cost more than 200 mill SEK on a full scale.

According to the goals listed above we have:

a. Established a Joint Collaborative Board (JCB) for EpiHealth with 13 regular members (see the web site) and 1 liaison member from another Strategic Research Area, EXODIAB (contact: Paul Franks), as well as one affiliated biobank expert (Joyce Carlson). A smaller Executive Group consists of three members (Maria Albin, Sölve Elmståhl, Lars Lind) as well as the Coordinator (Peter M Nilsson) and the Vice Coordinator (Marju Orho-Melander).

b. Created an interactive web site ([www.med.lu.se/epihealth](http://www.med.lu.se/epihealth)) and employed a web master (Jenny Molestedt)

c. Held a joint LU-UU 2-day seminar on 5-7th May, 2010, in Skanör, southern Sweden, for a project report summit. Organised a well-attended Course in Advanced Epidemiology in Malmö on 6-8th October, 2010 (course leaders: Jonas Björck, Lund, and Juan Merlo, Malmö).

d. Worked in a joint LU-UU task force group for planning the EpiHealth Cohort, starting with screening activities in April 2011.

e. Developed contacts with some enterprises (mostly Astrazeneca AB), authorities (mostly Socialstyrelsen and Region Skåne) and institutions (mostly national or international university contacts, as well as with the EU Interreg office in Copenhagen).

f. Received a Swedish-Danish EU Interreg project grant, linking Swedish and Danish researcher in cardiovascular epidemiology. The project is about to start in February 2011 and will include participants both from the university level (LU-EpiHealth) and from the health care sector (departments of cardiology in Malmö, Lund, Copenhagen and Odense).

## FRÅGA 12



**B2. Strategy and plan for process of knowledge transfer and utilization of research findings**

## FRÅGA 13



**a. Describe the major challenges concerning knowledge transfer and utilization of research findings.**

Research in epidemiology is very multi-faceted, and comprises a list of activities in such very different areas as for example genetic epidemiology and health economics. One major challenge is to compile relevant epidemiological information on a local, regional and national basis and use it efficiently for:

- a. Translational research, in order to facilitate the development of new diagnostics or therapeutic methods based on a further understanding of gene-environment interactions, as well as descriptions of pathophysiological mechanisms in order to define new drug targets.
- b. Epidemiological surveillance systems of acute or chronic disease conditions, based on register information, questionnaire data, or data on social or environmental exposures.
- c. Follow-up studies related to the results of health care, based on data on clinical outcomes, quality of care, and cost-effectiveness of methods used (health economics).
- d. International collaboration and comparative studies, based on sharing of data from registers and biobanks.
- e. National collaboration based on a strategy to invite researchers from other universities and research centres to join EpiHealth and our activities to facilitate collaboration and networking.

We need to establish new and closer links with enterprises and institutions to translate findings in epidemiology and pathophysiology to new interventions and potential drug targets.

## FRÅGA 14



**b. Describe the initiatives taken to meet these challenges.**

EpiHealth has taken the first steps to deal with these challenges, even if not enough has been achieved during the first year (2010) of our activities in relation to the approved project plan (2009). The majority of goals has nevertheless been achieved.

In relation to the areas mentioned we can report:

a. For Translational research it was of great importance when new publications in high-ranking journals (Nature and Nature Genetics 2010) showed data on new potential drug targets, for example the SORT1-receptor regulating lipid metabolism (Marju Orho Melander). The next step will be to elucidate on the potential pathophysiological mechanisms involved, as well as to collaborate with the industry to define a potential drug target and how to influence it pharmacologically.

b. For Epidemiological surveillance systems we have continued activities and collaboration since many years related to the National Medical Birth Register, run by Socialstyrelsen with registration and analyses of perinatal outcomes and malformations (Karin Källén).

c. For Follow-up studies we have started to collaborate with experts in Health Economy at the LU (ULf Gerdtham, Katarina Steen-Carlsson), both within and outside the Faculty of Medicine. Activities linking researchers from both LU and UU to national quality registers (mainly for orthopedic surgical interventions, diabetes and heart disease) have continued and been further expanded. One major achievement was the participation of representatives from LU (Peter M Nilsson) and UU (Bernt Lindahl) in a national task force for a joint application to the Wallenberg Foundation in November 2010 to establish biobank infrastructures linked to the quality registers of Sweden, as well as to BBMRI.se. The international evaluation process is ongoing, with results expected in late Spring 2011.

d. For the International collaboration and comparative studies, based on registers and biobanks, we can report that the research collaboration with Broad Institute (Olle Melander, Marju Orho-Melander), Stanford (Jan Sundquist, Kristina Sundquist), Framingham (Johan Sundström, Lars Lind) in the US, as well as with Cambridge (Peter Nilsson, Leif Groop) and other European centres within EPIC (Jonas Manjer) is ongoing and has resulted in several important publications during 2010. For the national collaboration it should be mentioned that EpiHealth participates with representatives, selected by LU and UU respectively in the National Advisory Board for LifeGene, [www.lifegene.se](http://www.lifegene.se) (LU: Peter M Nilsson, UU: Lars Lind), BBMRI.se, [www.bbMRI.se](http://www.bbMRI.se) (LU: Peter M Nilsson, UU: Lars Lind), the National Biobank Council, [www.biobanksverige.se](http://www.biobanksverige.se) (LU: Peter M Nilsson, UU: Lars Lind), as well as the Region Skåne Steering Committee for regional biobanks (LU: Peter M Nilsson, Ingemar Carlstedt).

A major achievement was the signing of a EU Interreg grant in December 2010 for collaboration between Swedish and Danish researchers in cardiovascular epidemiology, linking universities and county councils (departments of cardiology) in Malmö, Lund, Copenhagen, and Odense).

e. For National Collaboration we have invited selected researchers from other universities to join the EpiHealth wider network including submitting project reports to our register of project at our web-site, and to participate in seminars, meetings and courses. These contacts mainly include the Jönköping (Anna Dahl) and Umeå Universities (Göran Hallmans, Jan-Håkan Jansson).

Of special importance is to cross-link with other strategic research areas, for example in diabetes (EXODIAB). One first step has been to appoint liaison persons (officers) for bridging and reporting between our strategic research areas (from EpiHealth: Marju Orho-Melander; from EXODIAB: Paul Franks). We have also started to discuss the need of a patient register for patients with Parkinsons disease with MULTIPARK (Patrik Brudin).

## FRÅGA 15



**c. Are there any major changes in the planned activities compared to the plan given in the application [year 1]/at the last follow-up[year 2-4]? Please, describe and motivate. This information is important in order to monitor the development of the strategic research environment.**

So far we have not been able to fully develop our contacts with the industry to promote the discovery and testing of new drug targets, based on new findings in genetics, based in part on the biobank samples available within EpiHealth (the Malmö Preventive Project and the Malmö Diet Cancer cohorts). This is a priority during the next few years.

Regarding the Epidemiological surveillance systems we aim to do more in collaboration with the National Board of Health and Welfare (Socialstyrelsen). This is the national authority, but during 2010 the "Epidemiological Center" at Socialstyrelsen has undergone some administrative and structural changes that we must await to be completed before our contacts can be further developed.

We are also waiting for confirmation of how major grant applications are currently being evaluated, both to Wallenbergstiftelsen and the EU (e.g. the BIOVAS consortium), building on the collaboration for European research in molecular biogerontology ([www.whyweage.eu](http://www.whyweage.eu)) and the Roadmap initiative in 2010 for this research area.

## FRÅGA 16



**B3. Collaborations**

## FRÅGA 17



Please list the most important collaborations or strategic alliances with companies, institutes or other organizations (maximum 10) in relation to the strategic research environment.

Start by specifying the number of collaborations/strategic alliances. Click on OK and the specified number of rows will be created. Fill in the created table by stating type of collaboration, name of organization and the objective.

Number of collaborations/strategic alliances

10

Type of collaboration	Name of organization	Objective
Epidemiological surveillance	National Board of Health and Welfare	Birth malformations, perinatal outcome data
Joint epidemiological projects	Astrazeneca AB, Lund	Sharing of epidemiological expertise
Health economics research	Institute for Health Economy (IHE), Lund	Analyses in health economy, focus on diabetes
Biobanks and patient register data	Region Skåne (regional health authority)	To increase collaboration and usage of data, e.g. from primary health care
Genetic epidemiology, joint research	Broad Institute, Harvard, US	To elucidate on genetic influences on diabetes, metabolic traits and cardiovascular disease
Social epidemiology research	Stanford University, Stanford, US	Joint NIH-grant application for research related to gene-environmental influences in social epidemiology
Cardiovascular epidemiology	National Hospital (Rigshospitalet), Glostrup, Copenhagen, Denmark	EU Interreg project 2011-2013, infrastructure developments
Epidemiology of cancer, diabetes and cardiovascular disease	European Prospective Investigation into Cancer and Nutrition (EPIC)	Gene-environmental analyses for defined chronic disease conditions

Type of collaboration	Name of organization	Objective
Epidemiology of diabetes	National Diabetes Register, Göteborg, Sweden	Outcome data based on national registration of patients from hospitals and primary health care centres
Epidemiology of cardiovascular disease	Swedish Heart Register, Uppsala, Sweden	Register based information on the outcome of CVD events

## FRÅGA 18



## B4. Recruitment

## FRÅGA 19



## a. Describe the strategies for recruitment to the strategic research environment.

We aim to recruit both senior and junior (post-doc) academic staff, but also administrators, technicians, IT-engineers, and experts in biostatistics and bioinformatics. One first step is to announce a position as Professor of Medical Epidemiology in early 2011, based on the preparations made during 2010. This will be a Professor employed by LU but fully paid by EpiHealth, working part-time in both Lund and Malmö. We expect to have a number of highly competent epidemiologists from both Sweden and abroad to apply for this academic position.

As part of the EU Interreg collaborative project with Denmark, starting in February 2011 but applied for in 2010, we aim to employ new staff for support of the infrastructure. These persons (IT-engineer, data manager, secretary) will be based at the Skåne University Hospital in Malmö and the LU facilities there (Jonas Manjer, Anders Dahlin, Anna Hwasser).

Furthermore, we aim to enlarge the platform for our biobanks in collaboration with BBMRI.se (contact: Joakim Dillner), planning a hub in Malmö with employment of new staff to work with the present technical staff (contact: Carl Bryngelsson).

We also aim to recruit new PhD-students and to increase the interest in epidemiological research in undergraduates, especially at the Faculties of Medicine at LU and UU.

## FRÅGA 20



**b. Describe career opportunities offered by the strategic research environment to young researchers.**

Although within the budget of EpiHealth we have very limited possibilities to offer positions for young researchers, our approach stimulates, creates and supports young researchers career opportunities in several ways:

a) By developing contacts and collaborative projects between different research groups associated to EpiHealth (within Lund/Malmö groups, within Uppsala groups, between Lund/Malmö and Uppsala etc). This creates better possibilities to identify suitable post-doctorial projects and career opportunities nationally and internationally via the wide international collaboration networks.

b) EpiHealth informs and supports young researchers to attend international meetings and epidemiology courses (see [www.med.lu.se/epihealth](http://www.med.lu.se/epihealth)).

c) EpiHealth organises seminars and courses to educate young epidemiologists. During 2010 EpiHealth organised a doctoral/post doctoral advanced course course in "Assessing causality by family based design" (leaders: Juan Merlo and Jonas Björck) with participation of international teachers as well as the ones from LU and UU.

d) EpiHealth has been invited to list five young researchers, among 90, to be active participants of the LU three-year programme (course) to support the academic leadership of tomorrow (Karin Källén, Valeriya Lyssenko, Jonas Manjer, Martin Englund, Jonas Björck).

## FRÅGA 21



**c. Describe the strategy/plan for staff mobility between the university (universities) and business or public sector (e.g. staff exchange program).**

This is still something we need to plan for. As the former Astrazeneca compound in Lund has recently been taken over by a foundation linking the private sector (PEAB) with the university for creating a Research institute dedicated to cancer we foresee new possibilities to expand in cancer epidemiology (Håkan Olsson, Mef Nilbert, Jonas Manjer). Following that we expect that new opportunities can be established for staff mobility.

## FRÅGA 22



**B5. Education**

## FRÅGA 23



**The integration of education, research and innovation needs to be strengthened (knowledge triangle). Describe how curricula, teaching and examination, at all levels of education including doctoral level, are developed in relation to the strategic research environment.**

We aim to integrate academic education at all levels with EpiHealth. Primarily we try to reach post-doc researchers, but we also want to support PhD students with projects related to epidemiology. One important aspect is to overcome old, but still somewhat relevant, borders between disciplines, faculties and geographical areas. This has started to become a reality when we collaborate actively between LU and UU, as well as between the faculties of medicine and technology (LTH) in Lund.

Another important aspect for EpiHealth concerns our vision to collaborate with the industry and other actors for innovation programs as well as to work to create innovation supporting a culture of open collaboration and integration within EpiHealth. For innovative goals and products from epidemiological findings it is important that epidemiologists and experimental scientists are connected to each other and collaborate. Also, we act supportive for epidemiologists performing both epidemiological studies and experimental work with innovative aims, one example being the new genetic findings in lipid and cardiovascular genetics that have been tested functionally and may now lead to development of new drug targets. Striving towards the goal to stimulate innovative collaboration in nutrition and gene-diet research fields we will organize a joint LU-UU symposium in Lund for experimental nutrition researchers, nutrition epidemiologists and representatives from industry (Antidiabetic food, Functional food) (contact: Marju Orho-Melander, Emily Sonestedt) on 22-23 March 2011.

## FRÅGA 24



**B6. Engagement and participation of the business sector, industrial research institutes, and other community organizations in problem formulation and implementation.**

## FRÅGA 25



**a. Describe industrial and/or societal problems and needs that are addressed.**

There is a great societal need to register and follow trends in medical birth outcomes. This is necessary because early life developments are of great importance for adult health. Since many years a collaboration has existed between the National Board of Health and Welfare (Socialstyrelsen) and researcher at the Lund University (Bengt Källén and Karin Källén) to further quantify and tackle these problems by use of epidemiological surveillance systems.

Another societal need is to control environmental pollution and health hazards. This is especially relevant for southern Sweden where the Lund University is located, due to the closeness to big industrial areas in Western Europe. From these areas air-borne particles and chemicals are transmitted to southern Sweden causing a decrease in pH (acid rain) in the soil and increased exposure to chemicals and toxins. This is a societal problem in need of finding new technical solutions. However, surveillance systems based in epidemiology and indices of habitation (post code areas) are needed to continuously follow the trends and report on increased exposures and negative consequences for health.

Another societal problem of great importance is to monitor trends in infectious diseases, especially in pregnant women where a risk exists for negative influences on fetal growth and development. This is being covered by a continuous serological surveillance system based on the maternal biobank with samples from more than 600,000 pregnant women in the county Region Skåne.

## FRÅGA 26



b. List organizations involved in problem formulation and implementation.

Start by specifying the number of organizations involved. Click in OK and the specified number of rows will be created. Fill in the created table by stating the name and business register number (organisationsnummer) of organization.

Number of organization

Name of organization	Business register number
National Board of Health and Welfare, Stockholm	2021000555
Länsstyrelsen, Region Skåne	2021002346

## FRÅGA 27



c. Describe the time and resources used for this effort.

For the collaboration with Socialstyrelsen (Medical Birth Register) Karin Källén from EpiHealth has been very important as she is a senior researcher, administrator and consultant to the large data-bases and registers on for example malformations or adverse pregnancy outcomes. She is in constant contact with the central registers in Stockholm, and spends most of her time (80%) working with regional or national registers of great importance.

Regarding the environmental exposures it has been a research task of the Department of Work and Environmental Medicine in Lund to find new ways of tackling these problems and to build surveillance systems. This is carried out in close collaboration with a number of researchers at the Lund Technical University (LTH), specialising in various aspects of air-borne particles, fumes, toxins and other environmental health hazards. A substantial proportion of working hours for a number of researchers is spent on this area of research (Maria Albin, Kristina Jakobsson). The data provided are further discussed with representatives from regional administrators at Länsstyrelsen of the county Region Skåne.

## FRÅGA 28



C. PRECONDITIONS

C1. Organization and leadership of the strategic research environment

## FRÅGA 29



**a. Describe how the strategic research environment is organized, including the set-up with co-applicant Higher education institutions (if any), and collaborating research institutes (if any).**

**If the set-up differs from the one described in the application [year 1]/at the last follow-up [year 2-4], please comment.**

EpiHealth is headed by a joint collaboration board (JCB) consisting of 13 members, Peter M Nilsson, Marju Orho-Melander, Maria Albin, Sölve Elmståhl, Bengt Jeppsson, Jan Sundquist, Karin Källén, Giuseppe Giordano (research student) from Lund University (LU), and Lars Lind, Karl Michaelsson, Johan Sundström, Niklas Eriksson (research student) from Uppsala University (UU). Furthermore, Ingemar Petersson is a representative from the county council (Region Skåne) and Paul Franks a liaison officer from another strategic research area in diabetes (EXODIAB). In addition, we have one specialist in biobanking affiliated to the collaboration board, Joyce Carlson, Lund. The board meets or conducts telephone conferences 2-3 times annually.

The board is headed by the coordinator, Prof. Peter M Nilsson. Within LU EpiHealth is organized as a center within the Faculty of Medicine, lead by an internal board consisting of 11 members, all of which are members of the joint collaboration board. The coordinator Prof. Nilsson is the chairman of the internal LU board. This board will decide on financial questions exclusive for LU, for example allocation of financial resources for funding and recruitment of new academic experts. One recent example is the new Professorship in Medical epidemiology that has been decided and will be announced during Q1 of 2011. The Internal Board meets twice annually.

In Uppsala there is a internal UU board headed by Lars Lind and consisting of Karl Michaelsson, Johan Sundström, Johan Hallquist with assistance of Bertil Lindahl and Ann-Kristin Syvänen (former PIs of the application in 2009).

For executive tasks there is also a smaller joint executive committee consisting of the Coordinator Peter M Nilsson and one representative from Malmö (Sölve Elmståhl), one from Lund (Maria Albin) and one from Uppsala (Lars Lind). This committee has 4-5 annual telephone meetings.

## FRÅGA 30



**b. Describe the leadership and management of the strategic research environment, including number of men and women in the management team, the decision-making procedure, and who is in charge.**

**If the management differs from how it was described in the application [year 1]/at the last follow-up [year 2-4], please comment.**

EpiHealth is lead by the coordinator Professor Peter M Nilsson, who leads the activities, both scientifically and operationally, and is the chairman of both the joint collaboration board (JCB) and the internal board of Lund University. Professor Marju Orho-Melander is the deputy coordinator of EpiHealth, who was appointed by the Vice Chancellor to secure succession and long-term stabilization and to contribute to a better gender balance.

EpiHealth is headed by a joint collaboration board, with the following responsibilities:

ensures that research and PhD-studies are developed within EpiHealth

annually proposes resource allocation within a strategic plan

prepares a business plan

ensures that activities are conducted in accordance with business plan

ensures that research and development results in EpiHealth is communicated

produces an annual report

makes recommendations on appointments

ensures that the activities and decisions are transparent as all important documents are possible to read and down-load as PDFs at the home page of EpiHealth

The gender balance is strengthened based on the fact that the two coordinators consist of one man (PMN) and one woman (MOM). In the joint collaboration board there are represented five women and ten men.

Where appropriate the decision will be effective only when anchored and adopted within the respective university's internal regulations. Within Lund University, EpiHealth is headed by an internal board that leads the internal strategic work, and decides on resource allocation.

## FRÅGA 31



**C2. List of participating personnel in the strategic research environment**

## FRÅGA 32



**a. Please upload the Excel-file "C2 a List of personnel" that was sent out together with the instruction for reporting. The Excel-file should include name of person, name of institution, gender, position, role in research environment etc.**

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 33



**Please also state the number of relevant personnel (female and male) participating more than 10 % of full time in strategic research environment (regardless of financing). The number should be the same as the number of personnel that has been listed in the excel-file C 2 a.**

	Female	Male
Number of personnel	41	83

## FRÅGA 34



**b. If the principal investigators differ from the description in the application [year 1]/the last follow-up [year 2-4], please comment.**

In the original application (2009) was listed ten names of principal investigators (PI) for outlining the EpiHealth project. Most of them, but not all, are still active in the joint collaborative board (JCB) of the project or in the extended network. One PI moved away to another university in the meantime.

The PIs of the first application in 2009, and their present positions, were:

1. Peter M Nilsson, LU - now coordinator, active in JCB
2. Marju Orho-Melander, LU - now vice coordinator, active in JCB
3. Joakim Dillner, LU - moved to Karolinska Institute in 2010, active contacts via BBMRI.se
4. Karin Källén, LU - now active in JCB
5. Håkan Olsson, LU - now active in the network, not in the JCB
6. Jan Sundquist, LU - now active in JCB
7. Lars Lind, UU - now active in JCB
8. Bertil Lindahl, UU - now active in the network, not in JCB
9. Björn Olsén, UU - now active in the network, not in JCB
10. Ann-Kristin Syvänen, UU - now active in the network, not in the JCB

## FRÅGA 35



C3. Economic report for year 2010

## FRÅGA 36



a. Specify the income of the strategic research environment.

	Funding in SEK
Government strategic research funding	6000000
Co-funding from main applicant Higher education institution	48270000
Co-funding from co-applicant Higher education institutions	12400000
Funding from collaborating research institutes	
Funding from other collaborators	
Other external funding	44162000

## FRÅGA 37



b. Specify the costs of the strategic research environment.

	Costs in SEK
Personnel	-936000
Running costs	-539000
High cost equipment	
Infrastructure running costs	
Other costs	-251000

## FRÅGA 38



c. Are the income and costs in agreement with the budget given in the application [year 1 only]? Please comment.

The first year of EpiHealth (2010) has seen the establishment of its leadership structures, web site, seminars and other activities. However, we have so far not been allocating or paying money to three costly activities in the budget, planned for 2011 but prepared during 2010.

1. The announcement of a Professorship in Medical Epidemiology at LU, to be announced during Q1 2011, with an annual and permanent budget of 1.2 mill SEK
2. The start of the screening activities of the EpiHealth Cohort at both LU and UU, starting in Uppsala in Q2 2011. The total budget will be approximately 2-3 mill SEK annually, including costs for screening sites, staff (research nurses), biobank sampling, and lab analyses.
3. We have also allocated 0.3 mill SEK annually to support of infrastructures at LU in both Malmö and Lund (0.6 mill SEK/year). This has so far not started due to initial need of planning. Therefore the 2010 sum will be added to the 2011 sum, in total 1.2 mill SEK, to be paid during 2011.
4. At UU our colleagues have supported local infrastructures at the Uppsala Clinical Research Center ([www.ucr.uu.se](http://www.ucr.uu.se)).

The income budget is according to our initial plan but still the costs for 2010 have been lower than originally calculated due to the time-lag between preparations and the visible costs.

EpiHealth is also a very large and multi-faceted strategic research area, involving two universities (LU, UU) and research groups primarily in three cities (Malmö, Lund, Uppsala). Therefore it has taken considerable time to have it and its active participants defined and engaged in the network.

## FRÅGA 39



C3. Economic report for year 2010

## FRÅGA 40



d. Specify the distribution of the Government funding to the strategic research environment.

	Share (in percent of Government funding)
Share allocated to co-applicant Higher education institutions	40
Share allocated to collaborating research institutes	0
Share allocated to other collaborators	0

## FRÅGA 41



**e. Does the share allocated to the co-applicant Higher education institutions (if any) correspond to the one given in the application? Please comment.**

Yes, the share given to the co-applicant, Uppsala University (UU), has been the same as indicated in the original application (40%).

## FRÅGA 42



**f. If collaboration with research institutes was intended in the application; does the share allocated or the amount of money spent on collaborative efforts correspond to the one given in the application? Please comment.**

No allocation of funding to research institutes was intended in the application, and no funds were transferred.

## FRÅGA 43



**C4. Use of research infrastructure**

## FRÅGA 44



**a. Which infrastructures, national and international, are of importance for the strategic research environment? In what way?**

Of great importance to EpiHealth is the development of BBMRI.se, a national infrastructure for biobanking in research (headed by Joakim Dillner, KI). EpiHealth is in close contact with BBMRI.se and the goal is to use the infrastructure to support the biobank facilities and samples of EpiHealth (Malmö: MPP and MDC; Uppsala: ULSAM and PIVUS, etc.). In the national advisory board of BBMRI.se LU is represented by Peter M Nilsson and Marju Orho-Melander, and UU by Lars Lind, all three also representatives of EpiHealth and its joint collaborative board.

For the MDC we also collaborate with the EPIC consortium for biobank and register research focused on cancer, diabetes and cardiovascular research across Europe. The infrastructure was formally set in Lyon, France, but currently moved to London, UK.

Just recently an agreement was made for a joint EU Interreg collaborative project linking cardiovascular epidemiology in Denmark and Sweden (1.9 million Euros for three years) with EpiHealth-LU as the leading partner on the Swedish side. The application has been approved and the contract is now signed (contact: Sofie Håkansson, EU Interreg, Copenhagen, mail: sofie@interreg-oks.eu). The first activities will commence in February 2011.

We are in collaboration with some international research institutes, mostly abroad (e.g. the Broad Institute in Boston, US) for genetic research, but this has still not implicated any direct costs for EpiHealth, only to individual researchers as members of the EpiHealth network.

## FRÅGA 45

**b. To what extent are they used?**

The BBMRI.se infrastructure has just recently started to function on a national scale, with first attempts to organise regional so called biobank nodes in Uppsala and Lund-Malmö. We are about to have sub-parts of the MPP and MDC biobanks linked to BBMRI.se as well as part of the Uppsala biobank. Furthermore, the biobank samples from the EpiHealth Cohort, starting soon in its screening phase, are planned to be stored at the BBMRI.se regional biobank facilities.

In the EPIC Consortium we send biobank samples for analyses as well as register data to be stored in the central repository, and to be used for collaborative epidemiological research across Europe in EPIC (for cancer), EPIC-Interact (for diabetes) and EPIC-Heart (for coronary heart disease). New EU applications for additional support are pending in 2011.

Finally, in the EU Interreg collaborative project we are still in the first planning phase, but linked to this project is the planning of increasing infrastructure facilities in Malmö with a data server, new data manager, IT-support and a secretary. These resources will be used both by the Swedish and Danish researchers active in the joint project during 2011-2013. A first presentation of the new infrastructure will take place at the EU Interreg conference planned in Malmö on 23-24 March 2011.

## FRÅGA 46

**c. Has the need for and use of infrastructure capacity changed since the time of the application/the last follow-up? If so, in what way?**

The BBMRI.se infrastructure has just recently started to function. The details for the collaboration were not included in the original application from early 2009. We hope to make a good use of this infrastructure in the future, the first step being to establish a regional node for BBMRI.se for inclusion of sub-parts of the LU population-based biobanks (MPP and MDC) as well as the UU population-based biobanks (ULSAM and PIVUS).

The EPIC Consortium has been active over a number of years and our participation will be strengthened during 2011 because we have recently delivered large amounts of biobank samples to the infrastructure for further analyses within the EPIC-Interact project for prediction of type 2 diabetes in a selection of various European populations.

The EU Interreg collaborative project between Southern Sweden and Denmark was not foreseen at all at the time of our application in 2009. We believe that this represents a very promising infrastructure for the next three years, but it is still in its starting phase. This project will certainly be helpful in linking epidemiological research in Sweden and Denmark.

## FRÅGA 47

**D. RESULTS FROM THE STRATEGIC RESEARCH ENVIRONMENT SO FARD1. Scientific quality in an international comparison**

## FRÅGA 48



**a. Describe the most important results including development of new methods.**

During 2010 we have seen the publication of some very exciting new discoveries in genetics based on international collaboration where biobank sample derived data from both Malmö and Uppsala has been used. This work was headed by researchers within the EpiHealth network (e.g. Marju Orho-Melander, Olle Melander, Paul Franks). For example, discoveries revealing new genetic markers of lipid metabolism and potential drug targets based on new mechanisms, e.g. linked to the SORT1 gene, were published in two independent papers in Nature in August 2010.

We have also been able to publish outstanding results based on epidemiological surveillance of environmental health hazards, lead by EpiHealth researchers active in the SIMSAM and METALUND networks and based at Department of Work- and Environmental Medicine in Lund. New methods have been applied in collaboration with experts in technological sciences at the Lund Technical University (LTH).

The rich data from national quality registers (Hip replacement register i Lund, SWEDHEART in Uppsala) has contributed to the understanding of different clinical developments following orthopedic surgery or myocardial infarction, respectively. This is of great importance to better understand how the quality and cost-effectiveness of care can be facilitated.

In Health economy, a leading center on a national level has been created in Lund (Ulf Gerdtham, Katarina Steen Carlsson), linking the Faculties of Medicine and Economy with the private Institute for Health Economy (IHE) in Lund, with many important publications. These publications during 2010 are focusing on diabetes as well as the cost-effectiveness of various methods applied in health care. A research collaboration has also been established with the Sydney University, Australia (Phillip Clarke) as well as the National Diabetes Register of Sweden, based in Göteborg (Soffia Gudbjörnsdóttir),

## FRÅGA 49



**b. Describe briefly the development and standing of the strategic research in an international context (state of the art).**

Epidemiological studies performed by EpiHealth scientists during the past few years have been published in several international top-ranking journals (Science, Nature, Nature Genetics, NEJM, Lancet etc). In particular in the field of genetic epidemiology, our large epidemiological cohorts and populations have been very successfully utilised by Malmö/Lund/Uppsala scientists to produce several internationally leading level results. This has contributed to State-of-the-Art knowledge within the area related to genetics of type 2 diabetes, lipid metabolism, hypertension, stroke and myocardial infarction.

EpiHealth works to help Swedish scientists keep and strengthen their work in this area and to further develop research in new areas including for example importance of gene x environment interactions in common chronic disease conditions (Paul Franks, Marju Orho Melander, Emily Sonestedt). Our large screening study (EpiHealth Cohort) has the potential to become an important resource for future studies.

At the Uppsala university, leading researchers have been active finding new methods to study the epidemiology of communicable infectious diseases (Björn Olsén). This is an international issue as the recent pandemics have been of global importance (bird flu, swine flu) as well as clinical problems linked to immunisation programmes.

Finally, progress has been made regarding social epidemiology and multi-level analyses (Juan Merlo). This was also visible at the post-doc course in advanced epidemiology held in Malmö on 6-8th October 2010, entitled "Family-based methods in epidemiology". In Uppsala additional work has been carried out describing the social determinants of health in Sweden and Europe (Johan Hallqvist).

In summary, EpiHealth has benefitted from an extensive network of excellent researchers and fruitful and expanding national as well as international contacts. In no other Swedish research network a similar amount of biobank materials is already available, including more than 60,000 subjects with biobank samples in the Malmö-Lund region, belonging to LU, and about 10,000 subjects with biobank samples in the Uppsala region, belonging to UU. We aim to screen subjects and to establish a new biobank (EpiHealth Cohort) in 2011, that will aim for collaboration with a similar cohort in younger subjects 0-45 years called LifeGene with currently approximately 30,000 screened subjects. Together these two new population-based cohorts will change the map of epidemiology in the Swedish population for ever, building jointly a very strong basis for research into the origins of chronic disease in the population at large.

## FRÅGA 50



**D1. Scientific quality in an international comparison**

## FRÅGA 51



c. Please upload the Excel-file "D1 c List of degrees" that was sent out together with the instruction for reporting. The Excel-file should include name of person, gender, type of degree etc.

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 52



Please also state the number of obtained doctoral and licentiate degrees from the strategic research environment. The number should be the same as the number of degrees that has been listed in the excel-file D 1 c.

Number of degrees	88

## FRÅGA 53



D.1 Scientific quality in an international comparison

## FRÅGA 54



d. Published publications

Please upload the Excel-file "D1 d-g List of publications etc" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in with information on the following areas before uploading.

i. Scientific peer-reviewed publications in refereed journals. Include: Authors, Title, Journal, Volume, Issue, Pages (x-y) and Year of Publication etc.

ii. Peer-reviewed conference papers.

iii. Other scientific publications (books, thesis etc).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 55



Please also state the number of publications from the strategic research environment. The number should be the same as the number of publications that has been listed in the excel-file D 1d i-iii.

Number of scientific peer-reviewed publications	489
Number of peer-reviewed conference papers	5
Number of other scientific publications (books, thesis etc.)	137

## FRÅGA 56



D.1 Scientific quality in an international comparison

## FRÅGA 57



e. Conferences, research visits and visiting researchers

Please upload the Excel-file "D1e i-iii List of conferences etc" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in with information on the following areas before uploading:

i Major conferences and seminars arranged.

ii Visiting researchers (not included in C2a) and duration (more than 2 weeks). (Name, position, home university etc).

iii Research visits by personnel in the strategic research environment (included in C2 a) and duration (more than 2 weeks). (Name, position, host university and department etc).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 58



Please also state the number of conferences, visiting researchers and research visits. The number should be the same as the number of conferences etc, that has been listed in the excel-file D1 e i-iii.

Number of conferences	21
Number of visiting researchers	4
Number of research visits	4

## FRÅGA 59



## D.2 Strategic importance for the business sector and society

It needs to be stressed that there is a significant time-lag between the production of results and their impact on the business sector and society.

## FRÅGA 60



a. Which one of these sectors (SCB, Swedish Standard Industrial Classification, SNI2007) is the most relevant to the strategic research environment? Choose from the alternatives in the list below.

For more information, see <http://www.sni2007.scb.se/default.asp>

List of alternatives	<input type="radio"/>
MINING AND QUARRYING	<input type="radio"/>
FINANCIAL AND INSURANCE ACTIVITIES	<input type="radio"/>
REAL ESTATE ACTIVITIES	<input type="radio"/>
PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	<input type="radio"/>
ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	<input type="radio"/>
PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY	<input type="radio"/>
EDUCATION	<input type="radio"/>
HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	<input checked="" type="radio"/>
ARTS, ENTERTAINMENT AND RECREATION	<input type="radio"/>
OTHER SERVICE ACTIVITIES	<input type="radio"/>
ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS- AND SERVICES	<input type="radio"/>
ACTIVITIES OF HOUSEHOLD	<input type="radio"/>
MANUFACTURING	<input type="radio"/>
ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES	<input type="radio"/>
AGRICULTURE, FORESTRY AND FISHING	<input type="radio"/>
ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY	<input type="radio"/>
WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES	<input type="radio"/>

CONSTRUCTION	<input type="radio"/>
WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	<input type="radio"/>
TRANSPORTATION AND STORAGE	<input type="radio"/>
ACCOMMODATION AND FOOD SERVICE ACTIVITIES	<input type="radio"/>
INFORMATION AND COMMUNICATION	<input type="radio"/>

## FRÅGA 61



## D.2 Strategic importance for the business sector and society

It needs to be stressed that there is a significant time-lag between the production of results and their impact on the business sector and society.

## FRÅGA 62



## b. Innovation impact

Some research has an impact on industry and society e.g. concerning improved methods for treatment, improved effectiveness etc.

i. Please state names and business register numbers (organisationsnummer) of the primary organizations utilizing results and competence from the strategic research environment in the development of such results.

Start by specifying the number of primary organizations utilizing results and competence from the strategic research environment in the development of such results. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business register number and comments.

Number of organizations

Name of organization	Business register number	Comments (e.g. type of innovation)
National Board on Health and Welfare	2021000555	Medical Birth Register improvements
AstraZeneca AB	5560117482	Utilization of epidemiological data from MDC

## FRÅGA 63



## D2. Strategic importance for the business sector and society

## FRÅGA 64



## b. Innovation impact (cont.)

Some research has an impact on industry and society e.g. through supporting the development of new goods, services or processes.

ii. Please state names and business register numbers (organisationsnummer) of the primary organizations utilizing results and competence from the strategic research environment in the development of goods, services or processes. Start by specifying the number of primary organizations utilizing results and competence from the strategic research environment in the development of goods, services or processes. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business register number and comments.

Number of organizations

Name of organization	Business register number	Comments (e.g. type of innovation)
National Board on Health and Welfare	2021000555	Medical Birth Register improvements
AstraZeneca AB	5560117482	Utilization of epidemiological data from MDC

## FRÅGA 65



## D2. Strategic importance for the business sector and society

## FRÅGA 66



## b. Innovation impact (cont.)

iii. Have new or improved products/groups of products such as services or goods been utilized by public organizations?

Yes

No

## FRÅGA 67



iv. Have new or improved products/groups of products such as services or goods been introduced in the market?

Yes

No

FRÅGA 68



D2.Strategic importance for the business sector and society

FRÅGA 69



b. Innovation impact (cont.)

v. Were new private or public companies established during the last 12 months as a consequence of research and activities related to the strategic research environment?

yes

<input type="radio"/>
<input checked="" type="radio"/>

No

FRÅGA 70



D2.Strategic importance for the business sector and society

FRÅGA 71



b. Innovation impact (cont.)

vi. Please list names and business register numbers of the new private or public companies. Start by specifying the number of new private or public companies. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business register number and comments.

Number of new companies

Name of organization	Business register number	Comments

FRÅGA 72



D2. Strategic importance for the business sector and society

## FRÅGA 73



## c. Immaterial property rights

i. Has there been any application for immaterial property rights (IPR) during the last 12 months? (Immaterial property rights consist of patents, design patents and trade mark protection).

Yes

No

## FRÅGA 74



## D2. Strategic importance for the business sector and society

## FRÅGA 75



## c. Immaterial property rights

ii. Please list the applications for immaterial property rights (IPR) during the last 12 months. Immaterial property rights consists of patents, design patents and trade mark protection.

Startby specifying the number of applications for immaterial property rights (IPR) during the last 12 months. Click on OK and the specified number of rows will be created. Fill in the createdtable by stating patent/ID-number andtype of IPR.

Number of immaterial property rights

Patent/ID-number

## FRÅGA 76



## D2. Strategic importance for the business sector and society

## FRÅGA 77



## d. Mobility

Please upload the Excel-file "D2 d i-iiiMobility" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in before uploading. The Excel-file should include name of person, gender, name of organization etc in the following areas:

- i. List of persons from industry who have been employed or engaged within the framework of the strategic research environment during the last 12 months. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions. By industry we mean privately and publicly owned companies active in a market.)
- ii. List of persons from organizations outside of academia other than industry, who have been employed or engaged within the framework of the strategic research environment during the last 12 months. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions.)
- iii. List of researchers from the strategic research environment who have been employed or engaged by industry or industrial research institutes during the last 12 months. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions.)

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 78



Please also state i) the number of persons from industry, ii) the number of persons from organizations outside of academia other than industry, and iii) the number of researchers from the research environment who have been employed or engaged by industry/industrial research institutes. The number should be the same as the number of persons that has been listed in the excel-file D 2 d.

Number of persons from industry	3
Number of persons from organizations outside of academia other than industry	0
Number of researchers from the research environment who have been employed or engaged by industry/industrial research institutes	4

## FRÅGA 79



## D2. Strategic importance for the business sector and society

## FRÅGA 80



## e. Education

i. Has the strategic research environment carried out contract education on behalf of external clients?

Yes

No

## FRÅGA 81



D2.Strategic importance for the business sector and society

## FRÅGA 82



## e. Education

ii. List clients on whose behalf the strategic research environment has carried out contract education.

Start by specifying the number of clients. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of external client, subject area of contract education, number of participants of the contract education and extent of contract education (days).

Number of clients

Name of external client	Subject area of contract education	Number of participants of the contract education	Extent of contract education (days)

## FRÅGA 83



D2. Strategic importance for the business sector and society

## FRÅGA 84



## f. Policy impact

Some research has impact in the public realm, e.g. through supporting government in setting policy or standards. Please, list any such impacts.

Start by specifying the number organizations where these impacts have taken place. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, area of activity, role and kind of impact.

Number of organizations

Name of organization	Area of activity	Role	Kind of impact
National Board on Health and Welfare	Medical Birth Register	Consultant	New national recommendations for perinatal care and deliveries of post-term babies

## FRÅGA 85



## D2. Strategic importance for the business sector and society

## FRÅGA 86



## g. Public impact

Please list public impacts through for instance media, textbooks, conferences, popular science presentations and policy lobbying etc.

Startby specifying the number of activities. Click on OK and the specified number of rows will be created. Fill in the createdtable by stating type of activity, purpose of activity, name of activityand reference (e.g. <http://www.xxx.yy>)

Number of activities

Type of activity	Purpose of activity	Name of activity	Reference
Open Day for information to the public	Information to the public	EpiHealth Open Day	<a href="http://www.med.lu.se/epihealth">www.med.lu.se/epihealth</a>
Interviews, articles	Information to LU co-workers	LUM monthly	<a href="http://www.lu.se">www.lu.se</a>
Research Day 2009	Information on preventive medicine	Research Day	<a href="http://www.vetenskaphalsa.se/forskningens-dag-2009/">http://www.vetenskaphalsa.se/forskningens-dag-2009/</a>
Public Information on new study	Public Information on PROLONG project in diabetes epidemiology	PROLONG study information	<a href="http://www.vetenskaphalsa.se/varfor-slipper-en-del-diabetiker-komplikationerna/">http://www.vetenskaphalsa.se/varfor-slipper-en-del-diabetiker-komplikationerna/</a>

## FRÅGA 87



## D3. Other comments

The EpiHealth network aims for establishing a hub for epidemiological research on a national scale. Therefore we have had an outreach campaign to support contacts with other universities and institutions, outside the LU and UU area, for a wider network. Good relations exist for example with the Jönköping (Anna Dahl) and Umeå Universities (Göran Hallmans, Jan-Håkan Jansson), with participation in conferences organised by EpiHealth or in research networks. Two projects linking Umeå with LU is the MONICA study in Umeå (with guest researcher from LU: Peter Nilsson), the EPIC study (LU-contact: Jonas Manjer) and the DECODE study in Finland (contact: Jaakko Tuomilehto) linking Umeå with both LU (Peter Nilsson) and UU (Björn Zethelius).

On 25-27 May 2011 a major event will take place in Stockholm, Sweden, led by EpiHealth (Peter M Nilsson) in collaboration with the Swedish Research Council and the Swedish Society of Medicine. There will be an international symposium on telomere biology and its consequences for a better understanding on age-related health and disease, a so called Berzelius symposium (number 85). Leading international and national experts will come to lecture and to interact, among them the 2009 Nobel Prize laureate Elizabeth Blackburn, USA, and the leading experts Abraham Aviv, USA, and Nilesh Samani, UK. No similar international symposium has ever been organised. This is in line with the EpiHealth strategy to focus on "Healthy ageing for all" where not only biological factors are of importance, but also equity and the social context in a broader sense. This is reflected in the fact that some lecturers at the symposium (Elissa Epel, et al) will discuss the impact of psychosocial stress and phsychological factors on telomere length and processes of ageing.