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Research Strategy for Healthcare in Region Uppsala 2021–2024

Region Uppsala's vision is *A good life in an innovative knowledge region with international lustre.*

Region Uppsala exists to serve the residents of Uppsala County. Our aim is to create the foundations for health, sustainability and development for all of us who live and work here.

Region Uppsala aims to promote health and improve the quality of life of its residents. All residents should feel confidence and trust in an equitable healthcare system that is characterised by high quality, good accessibility and a warm reception. Clinical research generates knowledge that is used to develop and improve healthcare, and this is how patient benefit is created. This is why clinical research is a core task for the healthcare system within Region Uppsala. Region Uppsala is inclusive and creates good opportunities for good health and a safe and sustainable living and working environment.

Region Uppsala's largest health service department, Uppsala University Hospital (*Akademiska sjukhuset*), is also its biggest actor in research and accounts for more than 90 per cent of clinical research within Region Uppsala. As a university hospital, research is an obvious part of Uppsala University Hospital's remit. Medical research is conducted in collaboration with Uppsala University to shed light on disease mechanisms and to create effective new forms of treatment for tomorrow's patients. In addition, various types of clinical trials of new drugs are carried out at Uppsala University Hospital in collaboration with pharmaceutical companies. Within Primary Care and Health (*Nära vård och hälsa*), research is carried out in primary care and habilitation. The two academic health centres (*akademiska vårdcentraler*) have a special focus on research and education and collaborate closely with Uppsala University. Within Public Dental Service (*Folktandvården*), point-of-care research projects in various odontology areas are being conducted at a number of the clinics.

In clinical research, Region Uppsala's long-term and close collaboration with Uppsala University will be further strengthened. The Region's close collaboration with the Disciplinary Domain of Medicine and Pharmacy is instrumental in operating well-functioning clinical research and is fundamentally regulated in the regional ALF Agreement and manifested in *Common Visions and Goals for work-integrated education for healthcare professions, clinical research, and the development of healthcare*. University healthcare is operated within 22 university healthcare units at Uppsala University Hospital and one within primary care/general practice. Cooperation with other disciplinary domains can also strengthen clinical research, such as the establishment of Medtech Science & Innovation together with the Disciplinary Domain of Science and Technology and the Disciplinary Domain of Medicine and Pharmacy. Another example of good collaboration between Region Uppsala and Uppsala University is the Uppsala Clinical Research Centre (UCR), which is Sweden's largest clinical research centre within academia. The UCR facilitates the implementation of everything from small local to large international point-of-care clinical research projects in cooperation with researchers in Region Uppsala and Uppsala University, as well as other regions and industry. In addition, Region Uppsala and Uppsala University jointly

operate the Uppsala Biobank, which has taken a leading position in Sweden by being the first to introduce healthcare integrated biobanking, for example.

Due to the ongoing process of structuring highly specialised care at the national level, there is particular reason for close dialogue between Region Uppsala and Uppsala University to ensure that high-quality research supports the clinical areas that Region Uppsala's management decides to prioritise.

Region Uppsala supports actors in clinical research by improving processes and ensuring that the conditions exist for conducting clinical studies. In addition, Region Uppsala supports the regional healthcare initiative in Forum Mid Sweden, which has a remit to support collaboration within the healthcare region between various stakeholders in clinical studies and representatives of regional health units to improve processes and improve the conditions for and increase the number of clinical studies conducted in Sweden. Region Uppsala also supports the Regional Research Council Mid Sweden (RFR) which supports clinical research in collaborations within the Mid Sweden Healthcare Region (*Sjukvårdsregion Mellansverige*) through research grants.

The Regional Council has decided on a number of strategic goals, which are presented in the Regional Plan and Budget 2021–23. Many of these goals are impacted by how clinical research is organised and conducted. Although the strategic goals may be reformulated somewhat over the coming years, they provide a solid foundation for the general direction of the research strategy. The strategic goal ***Internationally recognised in research and innovation*** underlines the importance of research and innovation to revitalising Region Uppsala's activities and the services we offer to our residents. It also signals that research and innovation within Region Uppsala aim to be world-class, which means taking on challenging research questions with the expectation of achieving high-quality results. Research results and innovation initiatives are intended to have an impact on patients' treatment and their experiences of the healthcare system.

As clinical research is a cornerstone for the development of future healthcare, clinical research can also make a significant contribution to other healthcare-related strategic goals, as well as the goal of being an attractive employer and an economy in balance.

- ***Healthcare that is effective and local***

During the period, the Effective and Local Healthcare Programme 2030 will be implemented. It aims to strengthen the role of primary care and local healthcare that is provided within the home. During this period of transformation, it is essential that the conditions for conducting research in primary care and local healthcare are strengthened, so that research can be carried out wherever patients are located.

- ***Good quality healthcare with good accessibility***

Research is the foundation of new knowledge which in turn forms the basis for new and improved treatments. During the period and supported by the Swedish Association of Local Authorities and Regions (SALAR), Sweden's Regions will establish a common system for knowledge management. This knowledge management system is about developing, disseminating and utilising the best possible knowledge in the provision of healthcare. The goal is for the best knowledge to be available and utilised in every patient consultation.

- ***Good and equitable health***

By taking into account socio-economic factors, gender, gender identity, ethnicity, religion or other faith, disability, sexual orientation, age and the rights of the child, clinical research can provide support in questions related to an equitable and health-promoting healthcare system. Clinical research should also contribute to improving our understanding of how inequalities in other sustainable development goal areas affect health.

- **Attractive employer**

Furthermore, the opportunities offered to employees to be active in clinical research and innovation initiatives are important factors in increasing the attractiveness of Region Uppsala as an employer.

- **Economy in balance and cost-effective activities**

Research results can form the foundation of safer and more effective healthcare, for example through better medical outcomes and more socially efficient care and treatment.

Starting point and scope of Region Uppsala's research strategy

Clinical research aims to understand the causes of diseases and their progression and to improve diagnosis and therapy, and therefore clinical research is often the link between the laboratory and the patient. The work of clinical researchers is the guarantee that new knowledge is rapidly translated into healthcare practice and that knowledge from healthcare practice is injected into research.

This strategy is limited to research based on the structure of the healthcare system and the participation of healthcare professionals and/or patients, and is funded by municipalities, regions, central government, other research funding bodies or the life sciences industry (e.g., drug clinical trials). This definition also includes clinical research which aims to promote health or solve a health problem, as well as research in ethics and organisational development pertaining to the healthcare system.

This strategy covers research carried out at both university healthcare units and other healthcare units within Region Uppsala.

Strategy is the long-term plan, the framework, the signpost to achieving success in an activity. It points out goals on the horizon, it sets out key success factors, identifies key players, clarifies overall aims and objectives, specifies guiding principles and attitudes, and it can point out the obstacles and pitfalls. But it does not get bogged down in detail and instructions that suppress innovative thinking and creative approaches.

Region Uppsala's research strategy is based on and supports the focus of SALAR's position paper on clinical research *Samhället, patienterna och hälso- och sjukvården behöver klinisk forskning* [Society, patients and the healthcare system need clinical research], the Regional Research Council Mid Sweden's *Strategi för forskning inom hälso- och sjukvård 2018-2024* [Strategy for research in the healthcare system 2018 – 2024], and the Swedish Government's document entitled *Sweden's national life sciences strategy*. Region Uppsala's research strategy is a complement to Region Uppsala's and Uppsala University's *Common Visions and Goals for work-integrated education for healthcare professions, clinical research, and the development of healthcare*.

The part of the healthcare system that has been shaped to take into account the particular needs of research and education is called university healthcare. A special agreement exists between central government and seven regions, of which Region Uppsala is one, on *cooperation on basic education of doctors, medical research, and the development of healthcare* (the ALF Agreement). In addition, there is a regional ALF Agreement between Region Uppsala and Uppsala University. Regarding university healthcare, the *minimum levels for university healthcare*, determined by the National Board of Health and Welfare, must be met.

1. Clinical research governance, coordination and dialogue

To be able to continually deliver high-quality care to the population, it is essential that Region Uppsala actively pursues clinical research in order to produce new knowledge. It is this new knowledge that forms the basis for improving treatment methods and improving equity in health. Thus far, clinical research in Region Uppsala has been carried out largely within Uppsala University Hospital in its role as a teaching hospital. Uppsala University Hospital is an excellent research environment and will remain so, but in pace with structural changes, where large patient groups will be transferred from Uppsala University Hospital to other health service departments, it is very important that clinical research is adapted to these changed conditions. Intensified dialogue and coordination between the relevant health service departments will be crucial to maintaining and, in the best-case scenario, strengthening clinical research in the coming years. Clear governance must guide the focus on priority research areas, which include both highly specialised areas as well as widespread diseases and health promotion efforts, to ensure the optimal use of resources. In order to use our resources wisely, Uppsala University and Region Uppsala have chosen to join forces in a number of disease areas: cancer, cardiovascular disease, diabetes, mental health and infectious diseases including antibiotic resistance. To be able to conduct high-quality research and clinical development in these and other areas, it is essential to strengthen certain areas of methodology; hence the aim is to achieve high-quality pathology, medical imaging, epidemiology, and a well-developed infrastructure for precision diagnostics and precision medicine (including all the omics). The five areas that make up Uppsala University Hospital's centre of excellence are also priority areas: Neurotrauma, Inflammation, Endocrine tumours, Type-1 Diabetes and Aorta. Research linked to the care remits obtained within highly specialised care nationally will also automatically be taken up as priority areas in clinical research.

Management at all levels should be aware of the prerequisites for research, request evidence and also support, encourage and follow up research projects in their units. Knowledge of research should be integrated into training for employees and managers at all levels.

In addition to regular communication within Region Uppsala, dialogue with other regions within the healthcare region also needs to be intensified, as well as with Uppsala University and other partners.

Goals 2024:

- Clinical research is a clear task of the healthcare system. Research is part of the healthcare system's activities. It is included in operational planning, and management at all levels ask for and follow up research goals and priorities based on Region Uppsala's research strategy and individual health service departments' action plans. The number of employees active in research is measured and the number is to increase during the period. Clear research goals must be included in the operational plan. [goal: 100% at the end of the period]
- The research task must be apparent in manager mandates. [baseline measurement 2021]
- The research task is described in annual reports, such as the number of applications for internal and external funding, the number of studies in progress, the number of patients included. [baseline measurement 2021]
- Region Uppsala is to produce an annual report on research aimed at the general public.
- Healthcare agreements with private healthcare providers are to stipulate that the care provider must participate in clinical research and how this should be done and followed up. Measured by number of healthcare contracts that fulfil this goal. [goal: 100% at end of period]
- To increase the number of high-quality scholarly works in the areas of cancer, cardiovascular disease, diabetes, mental health and infectious diseases including antibiotic resistance compared to the period 2016-2020.

- That number of high-quality scholarly works in the fields of pathology, medical imaging, epidemiology, precision diagnostics and precision medicine compared to the period 2016-2020 is to increase.
- The focus of clinical research is coordinated with Region Uppsala's ambitions in the structuring of highly specialised care at the national level.

2. Economic conditions for research work

Generating evidence is a primary task for Region Uppsala's health service departments. High-quality healthcare and habilitation means that, as far as possible, the activities of health service departments need to provide evidence-based healthcare and habilitation linked to dimensions that capture important outcomes, i.e., patients'/residents' outcomes on dimensions such as quality of life, medical quality (survival, disease-free and asymptomatic), perceived quality and cost-effectiveness. Every patient/resident contact and every instance of healthcare/habilitation is a potential source of knowledge. Reasonable economic conditions including human resources, funding for operating costs and research funding internally are required to carry out research within Region Uppsala's health service departments. Cooperation across regional, municipal and responsible authority boundaries is also essential, as well as with the University and the life sciences sector. Employees who, in parallel with their clinical appointments, are completing doctoral education are admitted as doctoral students at the University. It is essential that there is dialogue between Region Uppsala and the University in order to safeguard the working conditions and work environment for clinical doctoral students.

Goals 2024:

- Specific doctoral student policies are in place that clarify the health service departments' investments in doctoral students. [goal: 4 out of 4 health service departments have a doctoral student policy at the end of the period]
- Follow-up is in relation to a dedicated research budget, which is reported separately, for each individual health service department. [goal: 4 out of 4 health service departments have a dedicated research budget at the end of the period]
- Region Uppsala matches ALF funding with its own resources 50/50. To be followed up and reported annually. [gradual increase in allocations, to support priority areas, annually through the regular Regional Plan and Budget process]

3. Research infrastructure and access to patient data

The infrastructure for clinical research is both the environment in which the researcher works and the conditions on which the research is dependent. This includes access to common technology platforms, databases, biobanks, research support staff and research skills. Infrastructure is of great strategic importance to the quality of research. Many investments in infrastructure are so costly that they are difficult for a single region or university to defray. Region Uppsala works with Uppsala University to jointly develop and support high-quality research infrastructures of importance for translational and clinical research, and to increase the knowledge and utilisation of high-quality local, national and international research infrastructures.

The patient and the patient consultation are fundamental to the success of clinical research. The most complete research environment is located at Uppsala University Hospital. It includes a hospital environment, staff with expertise in research, proximity to an academic environment, patients and patient data, advanced equipment and access to research in laboratories. The future of clinical research requires an infrastructure for research that includes, to a greater extent than currently, first-line healthcare, that is, in local healthcare, primary care, habilitation and dental care. Research on the large patient groups in outpatient care is promoted through the development of academic health centres.

Access to patients is essential for conducting research. A greater diversity of actors within

the healthcare system must not diminish the patient base. Increased collaboration within the healthcare region, both in terms of patient base and infrastructure, are important factors. The ability to use regional, national and international databases to evaluate large quantities of patient data is important – in terms of both access to data and contributing data. Biobanks are also an important resource for research. Well-functioning databases and biobanks are fundamental to successful treatment research. Region Uppsala also prioritises participation in relevant national quality registers.

Goals 2024:

- Ensuring that the research perspective is included when developing strategies for activities, inquiry and decision-making processes in the case of organisational changes; and in property development, and investments in healthcare infrastructure, including the acquisition of medical technology equipment. This applies in particular to the development of effective and local healthcare. [Measured by review of policy documents, specified in action plans specific to each health service department]
- Share of investments in infrastructure made jointly with Uppsala University. [to increase over the period]

4. Conditions for the researcher

Since clinical research forms the basis for future healthcare, it is important for Region Uppsala to attract employees to embark on a research career and give them good opportunities to conduct high-quality research. It is also important to create research environments that make Region Uppsala (in collaboration with primarily Uppsala University) an attractive employer and a desirable base for clinical research. It is important that Region Uppsala safeguards the skills of employees who have completed doctoral education.

It is also important that men and women are equally well placed to carry out research. The conditions for conducting research must be similar, regardless of profession. Common guidelines for post-doctoral career pathways, for example, are to be the goal, since this contributes to attractiveness.

Goals 2024:

- Research becomes a natural part of an attractive career choice as a result of measures that meet the needs of researchers at different stages in their careers. Examples of such measures are the creation of appointments with time allocated for research, for example, residency training positions with a research focus. Another example is appointments that combine research with clinical work for other professions and physicians in a different phase of their careers than residency training. [Baseline measurement 2021, then increasing over the period]
- Completed degree projects documented in the annual report on research.
- Research activity distributed between men and women, and between different professions, clarified in the annual report on research.
- Scope for research has been created through specific production planning for healthcare work and research work respectively.

5. Innovation

There has been an innovation strategy for healthcare within Region Uppsala since 2017 entitled *Innovative care – how chains of care become value chains*. The innovation strategy encompasses and complements the research strategy.

Strong, point-of-care research that produces new knowledge can be one of the starting points for innovation. In the healthcare system, research, innovation and collaborations with industry are interconnected and mutually reinforcing in a unique way. In no other sector is frequent and mutual interdependency between actors as evident as in the healthcare sector.

Region Uppsala Innovation is a unit dedicated to supporting employees in all of Region Uppsala's health service departments who have ideas or innovations. In particular, the unit maintains a good relationship with actors in Uppsala's innovation support system, which can be of help at various stages of the innovation process.

Goals 2024:

- More innovations based on results from clinical research. [Baseline measurement 2021, then increasing over the period]

6. Cooperation, collaboration and competition

Uppsala County has a strong and internationally successful life sciences sector, which is a result of many years of cooperation between industry, academia, the healthcare system and the broader community. The sector's roughly 200 companies are very important to the regional economy and its growth.

Region Uppsala's departments should continue to promote cooperation with other actors in this regional innovation ecosystem which, besides the healthcare system, consist of the two universities, Uppsala University and the Swedish University of Agricultural Sciences, Uppsala Municipality, the business community, and a number of facilitating organisations such as STUNS, STUNS Life Science, Uppsala Innovation Centre (UIC), Almi, and others. Region Uppsala Innovation has an important role to play in making healthcare resources available to external actors in a regulated way, and in channelling ideas from Region Uppsala's employees into the surrounding innovation support system. Through this type of cooperation, Region Uppsala can deliver benefits to society of importance to regional development, where research results and employees' ideas generated in working with patients, patient data and advanced equipment can stimulate innovation and entrepreneurship – thus making healthcare a driving force for innovation and growth in the county.

The county's municipalities constitute a major and important partner in working with Effective and Local Healthcare. Here too, cooperation in research and innovation should be expanded.

In Uppsala there are also four government agencies of great importance for clinical research and the life sciences sector: the Swedish Medical Products Agency, the Swedish National Food Agency, the Swedish Ethical Review Authority and the National Veterinary Institute.

Increased cooperation with other hospitals, universities in Sweden and EU partners will become the natural pathway to deeper specialisation, cutting-edge development and financing through EU funds for example. In the Mid Sweden Healthcare Region, there are excellent opportunities for closer cooperation.

Goals 2024:

- Region Uppsala will map and develop processes for effective collaboration between Region Uppsala's healthcare activities and companies that need access to the healthcare system's resources to accelerate innovation for future healthcare. [Measured by documentation of processes, number of process steps developed]
- The number of publications with the main author or co-authors from Region Uppsala is specified in the annual report on research.

7. Knowledge management – implementation and utilisation of research results

The benefits of clinical research only materialise when the results of research in the form of new methods of diagnosis and treatment are implemented in the healthcare system and old and ineffective methods are phased out. The flow of medical data is enormous, and it is

a great challenge to absorb and ensure that healthcare is based on the best available knowledge. Knowledge management is about developing, disseminating and utilising the best possible knowledge within

the healthcare system. The goal is for the best knowledge to be available and utilised in each patient consultation. Since 2017, all of Sweden's regions have been working together to create a new national system for knowledge management. The system will make it easier to coordinate the knowledge support used in the healthcare system. The three parts of knowledge management are knowledge support, follow-up and analysis, and support for operational development and leadership. It is important to create partnerships between those who disseminate and those who conduct research. New fields of knowledge to study can be identified through dialogue with clinicians, which in turn should be fed back and communicated to researchers.

In the Regional Plan and Budget 2021–2023, research and development issues are made central by allowing research to continuously influence healthcare. Within SALAR's work on the national programme areas (NPO), Region Uppsala is actively participating in the collaboration occurring within the Mid Sweden Healthcare Region. For research, there are both national and healthcare region functions. At the local level, a county-wide steering group for knowledge management has been established in cooperation with the county's municipalities with the task of linking work at the national and healthcare region levels with work at the local level. Working groups with expertise adapted to the knowledge support produced need to be established as required. At the same time, Region Uppsala needs to communicate needs that can be translated into action and coordinated at the healthcare region and national levels.

Goals 2024:

- The role of research in knowledge management has been made apparent.
- Cooperation between research and quality assurance in knowledge management efforts is prioritised.

8. Action plan

Once the research strategy has been established by the Regional Council, the health service departments will develop action plans at the activity or health service department level, in which the scope is adapted to the research intensity of the health service department. Health service departments with a high research intensity will develop more comprehensive action plans than those with a low research intensity. Where possible, action plans are developed and implemented in cooperation with Uppsala University. The purpose of the action plans is to put into practice the intention of the research strategy and to contribute to achieving the goals of the strategy.