

HUS medical research strategy 2019–2020

# RESEARCH WITH IMPACT

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## 1 About the medical research strategy

The aim of defining a research strategy for medical research at HUS is to increase awareness about the high-quality medical research done at HUS and its potential, both internally and externally. The medical research strategy outlines goals for medical research at HUS for 2019–2020 and describes what actions HUS plans to take in the near future to reach these goals. The audience for this document is HUS personnel and staff, both researchers and non-researchers, as well as HUS stakeholders, especially partners and potential partners in medical research projects. The medical research strategy will help HUS respond to the pressures facing our health system. It strives to clarify the path of medical research in HUS, in the midst of challenges and possibilities associated with fast technology development, changing regulatory framework, as well as changing demographics.

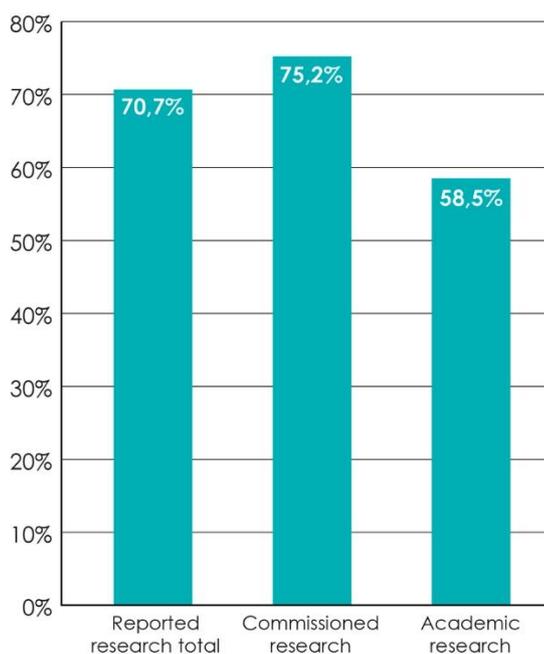
We at HUS to be forerunners in medical research in Finland, in the Nordics, as well as globally. Only by being active in medical research can we ensure good quality and state-of-the art care for our patients.

## 2 Medical research at HUS

### 2.1 Research environment

HUS has a long history of conducting medical research and research activities have increased at a constant pace. There are 1771 research project active in HUS at the time of writing (January 2019) and over 3000 scientific articles are published each year. The medical research done at HUS constitutes 70% of all medical research done in Finland (Graph 1).

Graph 1: HUS's share of initiated medical research projects in Finland



Although the medical research environment has become more complex and the competition for funding fiercer, HUS has managed to maintain the volume of medical research, and has increased its own investment in medical research.

Finland is uniquely positioned in the medical research field, thanks to the long tradition of personal identity numbers, unique gene pool, access to national demographic and health data registries, as well as the high quality of healthcare. The quality of medical research in Finland is high and the research environment is seen as very stable.

The complexity within medical research is increasing as protocols become more complex together with the more complex ways to administer medicines. The regulatory environment is also becoming more complex with new requirements and legislation from the European level (e.g. EMEA's guidelines and GDPR) as well as national level (e.g. legislation on the secondary use of health data and new processes envisioned for research permissions). For example, EMEA has issued a requirement that all new medicines should be tested on children as well.

## 2.2 Collaboration & Cooperation

HUS aims at collaborating closely with all its key stakeholders. Although HUS is the largest hospital in Finland, globally Finland has a fairly small population base and thus collaboration with other hospitals becomes important.

The closest partner for HUS is University of Helsinki, especially the faculty of medicine. The symbiosis between the two organizations enables the integration of research, education, and healthcare. Many researchers at HUS also have a position in the University and vice versa.

– Anne Pitkäranta, professor and Research Director at HUS

*“Helsinki University Hospital and University of Helsinki form a seamless partnership.”*

The other key stakeholders for HUS in medical research are pharmaceutical companies, the four other university hospitals in Finland, as well as the main university hospitals in the Nordic region. There is also intensive cooperation and project specific collaboration with other private sector actors, such as medical technology companies.

HUS has signed framework agreements with large pharmaceutical companies as well as technology companies. The objective of the framework agreements is to help engage in mutually beneficial collaboration in research and development activities. HUS also strives to engage in multilateral collaborative efforts: [the Biobank](#), [the Clever Health Network](#), [FinGen](#), and the newly established [iCan flagship](#) initiative are examples of multi-stakeholder engagement and collaboration. In addition, HUS is an active member in many national and international research alliances, for example: [Nordic Trial Alliance](#) (NTA), [Nordic Network for Early Cancer Trials](#) (Nordic NECT) and [FINPEDMED](#).

### Helsinki Biobank

Currently the Biobank in HUS contains samples from 61,266 persons. The amount of samples in the HUS Biobank is continuously increasing. The Biobank collects and keeps blood samples, as well as tissue and tumor samples.

## 2.3 HUS strengths

HUS provides a world class platform to conduct medical research. HUS provides secondary and tertiary care for a population of over 1,7 million. HUS is the largest hospital in the Nordic countries, and amongst the top ten largest hospitals in the world (ranked by personnel and budget). Patients from all over Finland with rare or difficult diseases are treated at HUS. This means that there is a good pool of patients from which to recruit potential subjects for trials. Also, Finnish patients have a reputation of willingly and diligently participating in studies.

The Meilahti campus provides a good environment for medical research: both hospital and university facilities are located in close proximity of each other. Also, trial facilities can be organized to maximize safety: all subjects are within the emergency zone.

One of the main strengths for HUS is its professional and highly educated personnel, which is the backbone of the high-quality medical research conducted here. There are established norms regarding reliability and validity within the HUS research community, and Finns have a general reputation of being dependable with high work ethics.

Currently HUS is very active in medical research in the fields of oncology, neurology and infectious diseases. Also, HUS is the current leader of the Finnish FINPEDMED network, which aims at increasing to volume of research on pediatric medicines nationally. The recently established MeVac vaccination research center, a joint effort of HUS and University of Helsinki, aims at bringing the Meilahti campus to the forefront of clinical research in vaccinations.

### HUS in numbers

24 328 personnel

3 000 academic peer review articles in year 2017

135 doctoral theses

600 new research permits in year 2017

### Why choose HUS as a medical research partner?

- High quality in medical research
- World class researchers, doctors, and research nurses
- Large pool of patients willing to participate in trials and rare and interesting cases
- Emphasis on safety – all trial subjects are within the emergency zone
- Wide ranging research support services

## 2.4 HUS Infrastructure

We at HUS pride ourselves with the wide-ranging support services we provide to medical research projects and researchers. The aim of the support services in HUS is to offer researchers clear and consistent processes.

### HYKS-instituutti

Owned by HUS, the Clinical Research Institute Helsinki University Hospital Ltd. (HYKS-instituutti) is an efficient and fast-paced organization that produces and develops management services for sponsored medical and health sciences research. The core idea is to have all research services under one roof. The research services of HYKS-instituutti cover areas such as monitoring, keeping track of the progress of studies, and research contract services. The financial administration team oversees financial matters from invoicing to salary payments and bookkeeping. HYKS-instituutti makes over 100 research agreements every year.

### Access to data

The access to data in HUS is exceptional: it enables the identification of suitable patients to research projects, and thus speeds up the responses to feasibility requests. Data in HUS are accessible via the newly launched HUS data lake, where all patient and patient care related data is gathered. The Custodix availability service to be shortly launched will provide researchers with quick answers to feasibility requests. Furthermore, the Biobank in HUS constitutes currently of samples (blood, tumor or tissue) from 61 266 patients.

### Administrative and research staff

HUS has invested in administrative staff to support researchers: a coordinator to facilitate the preparation and submission of EU proposals and a lawyer.

In addition to researchers and administrative research staff, HUS had made significant investments to train clinical research nurses. Building the training program for research nurses is a major investment for HUS. Research nurses are in charge of practical matters related to the trials, leaving more time for the researchers to focus on the trials themselves. Majority of research nurses leave their regular roles for fixed periods at a time to focus on research.

– Juha Aarvala, Managing Director of HYKS-instituutti

*“Research support at HUS is supposed to be a given, the core research team should not be bothered with anything else than the content of the research. When the support is so smooth that it goes unnoticed, we have reached our goal.”*

## HUS research infrastructure

- Inhouse high quality laboratory services – HUSLAB
- Exceptional access to patient and patient care data – data lake and Biobank
- Consistent and reliable research support services – HYKS-instituutti and the Researcher’s desk
- Large hospital campus with facilities to conduct research and trials
- Pool of trained research nurses

## 3 Goals for 2019–2020

Our overarching goal is to conduct world class medical research that improves health outcomes. This is possible since the work starts from strengthening internal research capability and enthusiasm. Medical research at HUS can benefit patients in two ways: directly through research innovations and through acquired expertise generated by the research. According to a study completed at HUS in early 2012, more than 80% of the surveyed researchers reported that their research findings led to diagnostic, therapeutic, or rehabilitation related changes in practical patient work.

Our main goal in medical research during 2019 and 2020 is to increase the volume of medical research, especially early phase studies and pediatric medicine studies. The aim is to increase medical research throughout all specialties in HUS, and in the longer run make medical research part of the everyday activities of the personnel. We want to be an attractive partner for research collaboration, both in sponsored and academically initiated studies. This means that we have to be active in the research arena and make conducting trials easy for partners as well as for our own researchers and staff and guarantee high quality results.

### Top notch cancer research at HUS

The Helsinki University Hospital Comprehensive Cancer Center (CCC) offers cancer patients rapid access to high-quality care and new treatments made possible by research projects. The HUS CCC is the largest cancer center in Finland and has been awarded the highest CCC status by OEI. Since 2016 the Comprehensive Cancer Center has had an early clinical trial unit that investigates the efficacy and safety of drugs in development and aims to identify the patients that benefit the most from the investigational medical product together with pharmaceutical companies.

### Brand new vaccine center

On 1.1.2019 the MedVac Vaccine Research Center in HUS opened its doors. The premises of the Vaccine Research Center at the Meilahti campus are especially designed for the implementation of clinical vaccine studies. HUS support services, such as HUS Pharmacy and the accredited research laboratory HUSLAB, are close by and available for service. At present, phase II–III studies can be performed in the center.

### Finland's largest research community on pediatric diseases

The Pediatric Research Center is located in Helsinki, in the Meilahti Hospital area. The Pediatric Research Center consists of about 30 research groups. The research groups operate in the brand-new children's hospital which is the largest in the Nordic countries. In the pediatric research center internationally competitive, medical research is conducted and medical innovations are developed. The results of the research are applied to the treatment of children's illnesses. In addition to research in disease mechanisms, HUS invests heavily in children's drug research in line with EU common goals.

Our second goal is to conduct high impact studies: both scientifically acclaimed (e.g. JUFO 2 and 3 publications) studies as well as studies that have an impact on the care of patients and care outcomes.

Our third goal is to have a balanced portfolio of both academic and non-academic research projects and trials in all phases and a balanced portfolio between disciplines. The goal is that medical research is conducted within all specialties where medicine plays a significant role in treatments.

Our fourth goal is to be a reliable international partner for medical research. We strive to not only cater for Finnish medical companies, but also to actively build lasting relationships with Nordic and international sponsors and partners. We want to be a solid and reliable partner and a first “go to” for medical companies with phase 1 and 2 trials.

## HUS Medical research goals for 2019–2020

- Increase medical research at HUS
- Balanced portfolio of research projects
- Be a reliable international research partner
- Strengthen HUS research infra

## Measuring goals

- Number of new protocols (research permit applications) submitted for consideration
- Number of submitted EU applications
- Number of ongoing medical research projects/ phase/ discipline
- Lead time for research permit applications
- Lead time for feasibility request responses

## 4 Action plan

The first action point is to strengthen the research infrastructure and make it more flexible. Our infrastructure is already strong, but there is still room to improve digital services related to research. For example, Custodix, a service for answering feasibility requests, will be launched in the near future. Also, we aim to increase the efficiency of the administrative process of research at HUS and to increase the flexibility and coordination of both research projects and research staff. We will for example strengthen our statistics unit with hiring one additional statistician to the team in 2019.

The second action point is to further develop the research capability of the staff and to foster an atmosphere of research enthusiasm. Well educated staff is the backbone of quality research at HUS. However, to maintain this, we will continue with constant education and training of both administrative staff (for smooth processes), research staff (in partnership building and in seeking funding for their projects), as well as research nurses (for coordinating research projects). Our training portfolio is enhanced in 2019 with a new Nordic training program: "Advanced study nurse training".

We will continue allocating a part of our budget to fund research. We also support researchers in enabling them to take time off from clinical work to focus on research.

### Action plan 2019–2020

- Open brand new trial facilities in 2019
- Continuous research nurse training and centralized coordination of research nurses
- Increase in handling of research permits
- Update the HUS policy for practicing staffs research leave