

Together we create

THE PATIENT TREATMENT OF THE FUTURE

Research strategy for OUH
and the Department of Clinical Research,
University of Southern Denmark

2021 - 2025



patienten først OUH

OUH
Odense Universitetshospital
Svendborg Sygehus





RESEARCH generates
new and better
patient treatments

RESEARCH saves lives

RESEARCH puts the
patient first



At Odense University Hospital - Svendborg Hospital (OUH) and the Department of Clinical Research, University of Southern Denmark (SDU), we want all research projects to be undertaken **for and with patients and their relatives**. Good research will be based on existing knowledge and be strengthened by the patients' own experiences of their illnesses and life situations, and the end goal is always better **evidence-based treatment**. This requires expertise and **excellent research collaboration** where we work together across disciplines, sectors, and countries. To ensure optimal patient treatment, we are committed to creating a **strong research culture** where we jointly create the framework in which the research will be developed and not least implemented for the benefit of patients, relatives, and society. The way towards this is via **attractive career paths** that make it easier and more transparent to combine research with the daily work in the clinic.

OUH and SDU are moving physically together within the period of this research strategy, and this will support the already fruitful collaboration between the two institutions. When the new university hospital is linked with the five university faculties, the proximity between clinic, research, and education will provide unique opportunities to generate the best results for the benefit of patients.

The research strategy 2021-2025 describes how we will work within the five focus areas: research for and with patients and relatives, evidence-based medicine, excellent research collaboration, strong research culture, and attractive career paths. We identify concrete actions and goals to indicate where we want to be as a university hospital and Department of Clinical Research in 2025.

The framework for the research strategy is OUH's Patient Pyramid, the Region of Southern Denmark's strategy for health research, other national research strategies, and SDU's strategy and underlying concept of "Our Global Goals".

All over the world, researchers are working together to find the next treatment involving stem cells, the next focus for immunotherapy, or the scanning method of the future. As a university hospital and Department of Clinical Research, we must continue to prioritise being an active, involved, and committed actor in this collaboration. Only in this way will we put the patient first.

Medical Director Kim Brixen, OUH & Head of Department Kirsten Kyvik, Department of Clinical Research, University of Southern Denmark





VISION

We undertake collaborative research to create the patient treatment of the future.

MISSION

We will work together to bring research of the highest international quality closer to the clinical setting to generate innovative results that, through education and effective implementation, will improve patient health.

TREATMENT

In the research strategy, 'treatment' is used in the broadest sense. It includes, for example, prevention, assessment, diagnosis, care, follow-up, rehabilitation, and palliation.

The strategy comprises five action areas that will contribute to fulfilling our common vision of creating the patient treatment of the future.

Research for and with patients and relatives

Our ambition is to actively involve patients and relatives in all parts of the research process.

Evidence-based medicine

Our ambition is to be among the best in the world to generate, incorporate, and implement evidence-based medicine in research, education, and treatment.

Excellent research collaboration

Our ambition is to collaborate across disciplines, universities, faculties at SDU, hospitals, sectors, regions, and national borders to carry out excellent research that can contribute to coordinated care of the highest quality.

Strong research culture

Our ambition is to create a framework that further professionalises and supports our research and enhances the way in which we make our results visible.

Attractive career paths

Our ambition is to be an attractive workplace with visible and flexible career paths for all researchers.

Our ambition is to actively involve patients and relatives in all parts of the research process.

Our research will be developed together with patients and relatives. As research often aims to improve the conditions for patients, it is important that patients and relatives can influence the research process and not just be the subject of the research. The patient's needs, experiences, and observations from life with an illness contribute valuable knowledge and bring new perspectives into research. When patients and relatives are involved in organising and carrying out research projects in active collaboration with researchers, the focus of the research is directed towards the problems that the patient experiences in everyday life. This increases the chances of the research being patient-centred and clinically relevant and of it reaching the clinical setting more quickly.

We will focus on creating a close and equal research collaboration with patients and relatives from the idea phase to the communication of research results. With the researcher as professional expert, patients and relatives will be actively involved in the research process and will have the opportunity to influence and take responsibility for how processes and activities are planned. There can be collaboration on which research questions should be asked and which research projects should be prioritised.

Several patient associations and foundations emphasise the active involvement of patients and relatives in research, so applications to foundations and councils are often advantaged by collaborations between researchers and patient representatives.

At the same time, we must be good at communicating our research results to patients and relatives; here too, it is beneficial to actively involve patients and relatives.



Actions

- We establish a centre for patients, relatives, and researchers that will integrate and promote patient involvement in research. Among other things, this centre will:
 - create an overview of current research projects with patient involvement
 - evaluate the effect of patient involvement in research together with patients and relatives
 - advise the research units about active patient involvement throughout the research process, including via courses, guidelines, and websites
 - help to ensure diversity in the recruitment of patients and relatives
 - gather patients and relatives together for sparring and networking
 - establish an idea bank where patients and relatives can make suggestions for research questions.
- We disseminate research results to patients and relatives via various platforms.
- We prepare lay summaries for relevant scientific results and publications.
- Patients and relatives have an active role in formulating research questions in all research units and in other phases of research where it is relevant.
- The research units decide how patients and relatives can be actively involved in all applications for internal and external funding, including crowdfunding.
- The research units continually make visible which projects involve patients and relatives and how they will be involved.

Key goals

- The establishment of a centre for patient and relative involvement in research
- The proportion of research projects in which patients and relatives are actively involved and relatives is calculated, made visible, and increased significantly in all research units during the strategy period.

Our ambition is to be among the best in the world to generate, incorporate, and implement evidence-based medicine in research, education, and treatment.

As a university hospital, OUH together with the Department of Clinical Research has four core tasks: treatment, research, education, and dissemination. Giving our patients the best individualised treatment requires that we both generate new knowledge through our research and translate existing evidence-based knowledge into evidence-based practice. Therefore, we need to continually combine the best possible available knowledge with the clinician's expertise and the patient's wishes for treatment.

For OUH employees, taking an evidence-based approach should be a matter of course in all subject areas and clinical areas. Improvements in clinical practice require decisions to be made on the basis of the best available knowledge so that the individual patient receives the best possible treatment with the fewest possible harmful effects.

With the move of the Nordic Cochrane Centre to Odense, we will intensify the current work on knowledge-based treatment through greater focus on staff training opportunities and through increased interdisciplinary collaboration, e.g. regarding advice on medicines and treatment, in clinical quality databases, and for local, national, and international research groups.

EVIDENCE-BASED MEDICINE

Is an internationally recognised concept that refers to the use of the best currently available scientific research results to make decisions about treating patients. In evidence-based medicine, clinical expertise is integrated with research results and the patient's own preferences.





PERSONALISED MEDICINE

Personalised Medicine refers to treatment that can be adapted to the individual patient. However, there is no clear and generally accepted definition of the term, and other terms are also used, e.g. precision medicine, tailor-made medicine/treatment, individualised treatment, genomic medicine, and targeted treatment.

SYSTEMATIC REVIEWS

The Cochrane Collaboration defines systematic reviews as follows: "A review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant primary research, and to extract and analyse data from the studies that are included in the review." Statistical methods (meta-analysis) may or may not be used to analyse and summarise the results of the included studies. A systematic review is thus in this context an inclusive term that covers a wide spectrum from scoping reviews, over systematic reviews with meta-analysis, to more sophisticated designs such as network meta-analyses.

Actions

- When we distribute internal research funds, we will prioritise research at high international level that has the potential to change patient care.
- We support research and implementation of individualised treatment, including personalised medicine.
- Each research unit sets annual targets for the number of clinical trials that examine new treatments and publishes regular updates of progress.
- We will be proactive in conducting clinically relevant, high-quality systematic reviews and supporting research. We will do this, for example, through educational opportunities and methodological advice to researchers.
- We will provide input into local, national, and international clinical recommendations and guidelines that can be used for treatment decisions.
- All departments will work systematically to implement new effective, evidence-based healthcare services and at the same time stopping the less efficient ones. One way for this is by providing input into OUH's Treatment Council and implementing their recommendations.
- We will allocate internal funds to research into the implementation of new knowledge, with a focus on, among other things, cross-sectoral transitions.

Key goals

- 25 per cent of PhD students undertake a systematic review, possibly with a meta-analysis, as part of their PhD.
- The number of systematic reviews of high international quality that examine new and already established treatments is calculated and is shown to increase annually.
- The number of high-quality clinical trials that examine new treatments, including personalised medicine, is calculated and shown to increase annually in all research units.

Our ambition is to collaborate across disciplines, universities, faculties at SDU, hospitals, sectors, regions, and national borders to carry out excellent research that can contribute to coordinated care of the highest quality.

The expectations for future healthcare services place high and increased demands on the coherence and collaboration across disciplines and sectors. Our research must support a coordinated healthcare system in which users and healthcare professionals experience positive interactions and outcomes. We will focus, therefore, on the transitions that occur internally within the hospital, the transitions between OUH and other regional and national hospitals, and the transitions between OUH, general practitioners, and municipal services. These cross-collaborations require the involvement of a range of professional perspectives and research traditions.

OUH and SDU have a long tradition of fruitful collaboration. This has primarily been in the health sciences field, but research collaborations have also been established in the technical and natural sciences, humanities, and social sciences, and they all contribute to creating the best results to the benefit of patients. As examples, PreMedico and the Clinical Genome Centre have been established in the area of Personalised Medicine, while the Centre for Artificial Intelligence and the Centre for Clinical Robotics have been established in the AI and robotics area. Research across disciplines and sectors, including translational research, can be the basis for research innovations and for solving complex, relevant clinical challenges. We wish to strengthen our research collaboration with all the faculties at SDU, so we can jointly identify and develop future health services based on the latest knowledge and technology. The physical integration between OUH and SDU will offer a unique platform for future research collaborations between all of OUH's locations and SDU, and at the same time will provide an effective framework for establishing collaboration regionally, nationally, internationally, and with the business community.

Research is an international discipline, and there is a need to exchange knowledge and experience with actors in the rest of the world. OUH's Internationalisation Fund

has in recent years supported stays abroad for researchers at OUH and the Department of Clinical Research as well as the affiliation of adjunct professors to our research units. This has helped to strengthen the international cooperation, but there is still a need to increase the focus on developing and strengthening collaborations with world-class international environments. At the same time, we will continue to focus on research with and in countries where we can help to promote development.

Actions

- We support the strategic research areas identified in the Region of Southern Denmark's strategy for health research.
- We establish management forums involving different SDU faculties as well as municipalities and general practice.
- We prioritise internal funding for research projects that focus on the patient's treatment course across professions, departments, hospitals, and sectors.
- We allocate internal funds to establish interdisciplinary frontline and elite research environments that involve several OUH departments, in close collaboration with different SDU faculties and possibly also international partners and the business community.
- We facilitate large joint applications for external funding in common strategic focus areas, for example within Artificial Intelligence, robotics, translational research, Citizen Science, and individualised treatment such as personalised medicine.
- We establish several joint positions involving different faculties at SDU, the regional hospitals, municipalities, and other relevant parties, including knowledge environments and businesses.
- We support a culture and structure where researchers meet across faculties to exchange ideas and to create innovative cross-disciplinary research collaborations.
- We develop a concept for and ensure visibility of Core Facilities for specialised laboratory methods.

- We develop a concept for and allocate funds to short-term stays for foreign researchers.
- We develop a concept for conference participation by researchers.

Key goals

- Up to four new frontline centres and two new interdisciplinary elite research environments are established.
- All research units publish in collaboration with different SDU faculties.
- At least half of the research units' publications are produced in collaboration with foreign partners.
- We collect an annual average of two grants from major international funds.
- A minimum of four new research projects are initiated annually at OUH in collaboration with municipalities and/or general practice.
- The number of joint positions involving different faculties at SDU, the regional hospitals, municipalities, and other relevant parties is increased.
- All research units are above the world average in relation to citations within their own research area (field-weighted citation index > 1).
- Up to two core facilities are established for specialised laboratory methods.

OUH STRIVES FOR THE EXCELLENT

OUH aims to be the Danish university hospital that is best at translating research, innovations, and clinical developments into practice. We will achieve this by establishing elite research environments and by thinking more internationally. This requires collaboration at regional, national, and international levels.





Our ambition is to create a framework that further professionalises and supports our research and enhances the way in which we make our results visible.

If new knowledge and new opportunities for better treatment are to benefit patients, it is crucial that research is prioritised and supported in all departments.

Research requires leadership and a strong culture of improvement in which research leaders and research units work systematically to professionalise and streamline the research process and the associated administrative processes. It should result in even better quality in the individual phases of the research process and will hopefully free up time for the more creative and innovative aspects of the research. It is hoped that this will also lead to greater funding success, which is a necessity for conducting research.

The Southern Denmark Improvement Model, which supports the development of an improvement culture in the Region of Southern Denmark, will be used as a method to ensure effective research processes and efficient utilisation of research resources.

Being a research leader requires a strategic overview of all research areas in the unit as well as an eye for the individual researcher. It is important to have an overview of the research's processes, goals, and results, e.g. in the form of applications and publications. This overview must be visible to the department's researchers and clinicians.

Researchers must be supported by a unified and visible infrastructure that can help ensure high quality in research processes.

Our research must also be visible to the surrounding society. As a university hospital and university, we have a duty to disseminate our latest knowledge to promote growth, welfare, and development. Therefore, we want greater focus on making our research results visible to patients, relatives, decision-makers, and society.

Actions

- We educate departmental management and research leaders in how to lead research, and we evaluate the research leaders' performance and behaviour on an annual basis.
- When we appoint departmental managers, we include emphasis on scientific experience, preferably at PhD level.
- The researcher support functions must be visible to researchers at local, national, and international levels and be gathered as far as possible under the research infrastructure OPEN.
- The research leaders ensure
 - overview of processes and visibility of goal fulfilment for external funding and publications, including publication in Open Access
 - updated overviews of announcements from relevant foundations in Research Professional
 - that all applications for external funding are registered in ForskerService or SDUpro
 - that all researchers in the unit have an ORCID ID.
- To further increase the quality of applications for external funding and of publications, we test the South Danish Improvement Model on relevant research processes, e.g. different models for grant writers, external preview of large funding applications, in-house editors, and medical writers.
- The research units continually compare the quality of their research with that of other similar national and international units via bibliometric analyses.
- The research units are supported in methods for disseminating research results to patients and relatives, staff, and the surrounding society.
- We hold the annual "Research Week" to ensure visibility of our research within the hospital, within SDU, and in the Region of Southern Denmark.

Key goals

- OUH spends at least 3% of its operating budget on research.
- External research funding accounts for at least 66% of all research funds spent.
- 40% of the research units' publications are at least in the top 10% journals, and 80% are at least in the top 25 measured via Scimago Journal Rank.
- OUH lives up to the national strategy that by 2025 all articles should be published by (green) Open Access whenever the journals allow it.
- All researchers who have published have an ORCID ID.



CAREER INDEX

The career index indicates the relationship between the proportion of female academic staff and the proportion of female professors. A value of 1.0 would indicate that men and women advance to the same extent in relation to their starting point.

Our ambition is to be an attractive workplace with visible and flexible career paths for all researchers.

Skilled and committed clinicians and researchers are crucial for us to undertake research of high international quality, where the results create value for patients and relatives. It is important that we train and recruit talent at a high international level and that we have a strong growth layer of researchers in all research units. The new, exciting opportunities for strengthened collaboration between hospital and university that arise from the physical merger will increase the opportunity to recruit employees from different professions, institutions, and countries. Diversity is a strength in research, and we must have a diverse workplace with a creative research environment and an inclusive work environment.

The individual professions must strive to base their clinical practice on evidence-based knowledge. Therefore, it is relevant for all professions to undertake research and to further develop their fields. All researchers will be affiliated with the research unit in their clinical department and will report to the research leader, regardless of academic background.

It is important that potential career paths for researchers are clear and visible to both researchers and the departmental managements so that after completion of a PhD, it is easier to continue a research career in combination with hospital employment, including educational positions. Combination positions between research and clinical practice help to disseminate research-based knowledge to the clinical staff so that health professional efforts are continuously improved - for the benefit of the patient. At the same time, combination positions help ensure that clinical issues become research topics.

Actions

- We draw attention to opportunities for career paths and for employing researchers.
- We develop and implement a concept for
 - talent development of researchers

- the transition from PhD student to post doc
- strategic recruitment and retention of both national and international researchers
- mentoring schemes for young researchers and newly arrived international researchers
- generational transition for researchers.
- We develop action plans for gender equality in collaboration with SDU's Gender Equality Team.
- We highlight and support the possibility of combining PhDs and other educational programmes across different hospitals.
- We formulate relevant employment structures for combination positions for all professions, including researchers with a non-medical professional background.
- The research leader presents an annual overview of the number of researchers expected in the various job categories in the department over the next 5 years.
- The research leader, in collaboration with the departmental management, develops career plans with the individual researcher as part of the annual MUS.

Nøglemål

- Goals are identified for the number of undergraduate students, PhD students, assistant professors or postdocs, senior researchers, and adjunct professors in all research units.
- All research units have researchers with diverse professional backgrounds.
- At least 25% of PhD students continue their career path either as a postdoc, assistant professor, or associate professor in combination with a clinical employment.
- At least 20% of PhDs, postdocs, assistant professors, associate professors, and professors have a non-medical professional background.
- The career index for men and women (VIP / professor ratio) is below 1.3.

This research strategy was prepared by

- Director Kim Brixen, OUH
- Head of Department Kirsten Kyvik, Department of Clinical Research, SDU
- Director Michael Dall, OUH
- Patient and Relatives Representative Henrik Nürnberg
- Head of Department Uffe Holmskov, Department of Molecular Medicine, SDU
- Deputy Head of Department Karin Dieperink, Department of Clinical Research, SDU
- Chief Medical Officer Mette Worsøe, Department of Internal Medicine M
- Professor Henrik Frederiksen, Department of Haematology X
- Professor Torkell Ellingsen, Department of Rheumatology C
- Professor Christian Godballe, Department of ORL – Head and Neck Surgery F
- Professor Hanne Kaae Kristensen, Department of Rehabilitation
- Professor Mads Thomassen, Department of Clinical Genetics
- Associate Professor Maja Thiele, Department of Medical Gastrointestinal Diseases S
- Postdoc Britt Borregaard, Department of Cardiology B
- PhD Sebastian Leicht von Huth, Department of Molecular Medicine and Department of Infectious Diseases Q
- PhD student Massar Omar, Department of Cardiology B.

The strategy group was aided by

- The Research Team, Finances and Planning
- The Improvement Team, Clinical Development
- The secretariat of the Department of Clinical Research, SDU.



Illustration: Odense Hospital Project Team