Hospital Sønderjylland

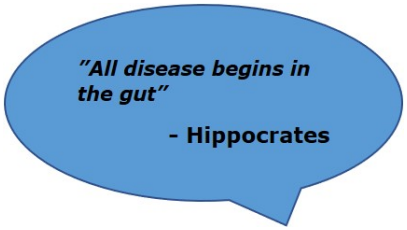
SDU University of Southern Denmark

Strategy for 2021-2025

Molecular Diagnostic and Clinical Research Unit (MOK)

Vision

Our long-term vision is to improve the treatment of patients with Inflammatory Bowel Disease (IBD) using multidisciplinary methods. During the next five years, we will advance Personalised Medicine (PM) to improve diagnosis, treatment, timing of treatment, prevention, and prediction of the IBD disease course for individual patients. Concurrently, we will focus on translating knowledge from research into clinical implementation to enhance treatment and benefit patients. MOK's ambition is to have an internationally recognised high standard of research and clinical competencies within PM.



Strategy

To implement the vision, MOK's strategy for 2021-25 will focus on three strategic priorities; elite research environment, staff and funding.

Strategic priorities

Establishing an elite research environment

Subject areas: MOK will promote the research environment of PM by expanding research into areas such as pharmacogenetics and clinical use of medicines. In addition, establishing projects within molecular diagnostic and clinical microbiology will contribute to unique PM methods.

Quality: MOK will improve the quality of research within PM by actively recruiting staff with the potential to perform innovative research within molecular biology, bioinformatics, and health research. MOK will increase the validity of the results by ensuring studies are of high quality and targeting high-impact journals.

Partnerships: MOK's ambition to improve the quality of research will be strengthened by expanding existing partnerships to embrace and nourish new research competencies. Hence, research projects, PhD and postdoc studies will be initiated in collaboration with regional, national and international research groups. In addition, MOK will prioritise the establishment of partnerships within PM and hospital pharmacy.

Relevance: MOK's research must be relevant for clinical practice and individual patients. MOK will improve integration with clinical practice when conducting research projects to ensure possible implementation and translation opportunities. In addition, MOK will expand upon patient representation, ensuring the relevance of new research projects for patients. For example, representatives and next of kin representatives will be involved in the planning phase of new projects.

Being an attractive and inspiring workplace with a focus on career development

Engagement: In MOK, we promote an engaging environment, show interest in each other's projects, and develop shared learning opportunities. MOK's emphasis on sustainability will ensure a positive research culture legacy. There will be a continued focus on good collaboration and relations, research challenges, sparring and inspiration between colleagues as the research group grows with the addition of new staff and competencies.

Career: It is our ambition that every student can see their career pathway from young research candidate to PhD and postdoc with opportunities to become an associate professor or professor.

Leadership: MOK's research staff are mentored by an engaging, clear, and appreciative leadership that tailors mentoring to individual needs and wishes. MOK aims to develop staff to have a clear understanding of the direction and priorities of research but with freedom and trust to plan according to the terms and conditions best suited to each staff member. MOK aims to develop research staff with independent research competencies and international collaboration networks.

Communication: MOK's activities and image will be prioritised to improve communication of the research unit.

Increase external funding for research

The growth of MOK is dependent on adequate funding. Therefore, MOK will significantly increase the number of strategic funding applications. MOK will explore alternative funding resources to increase the percentage of funding from external sources.

MOKs strategy is developed within the strategic framework of Hospital Sønderjylland[1], The Region of Southern Denmark[2] and The Department of Regional Health Research at The University of Southern Denmark (SDU)[3] to ensure a strategic correlation with focus on personalised medicine, the inclusion of patients, external funding and development of sustainable research environment. Additionally, the research strategy correlates with EU's vision[4] and Denmark's national strategy[5] for personalised medicine.

[1] Sygehus Sønderjyllands Forskningsplan 2020 – 2024, Rammer for forskning: http://www.sygehussonderjylland.dk/wm522825

[2] Strategi for Sundhedsforskning: Kliniknær forskning til gavn for patienten: https://ipaper.ipapercms.dk/RegionSyddanmark/Regionshuset/kvalitet-og-forskning/strategi-for-sundhedsforskning/

[3] IRS' strategi og strategiudvikling: https://www.sdu.dk/da/om_sdu/institutter_centre/irs_regional_sundhedsforskning/vision+og+strategi/politik_og_strategi

[4] icpermed.eu

[5] https://sum.dk/publikationer/2016/december/personlig-medicin-til-gavn-for-patienterne

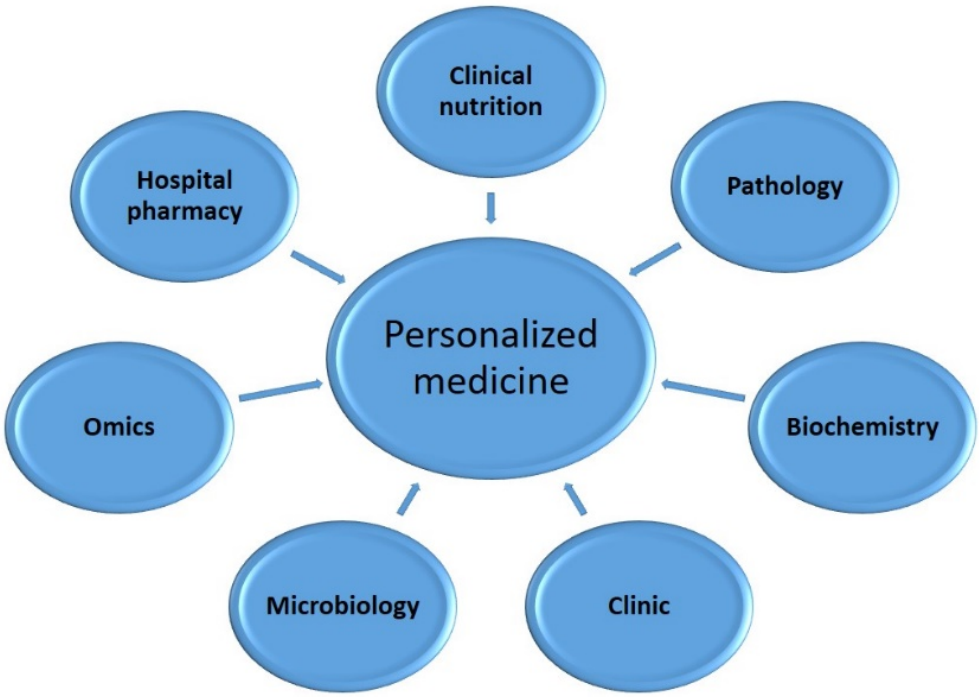
Profile

Molecular Diagnostic and Clinical Research Unit (MOK)

Mission

MOK improves PM[6] by applying in-depth molecular, lifestyle and clinical characterisation of individual patients. MOK considers PM as the focal point of the research, with input from different subject areas using multifaceted methods

Figure 1. Subject areas in MOK

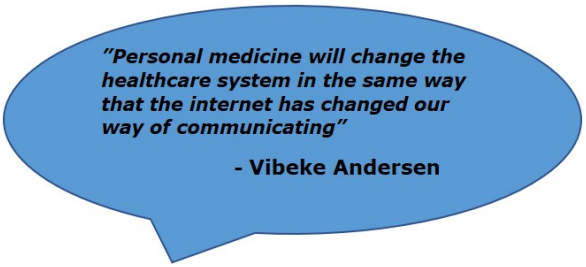


[6] https://ec.europa.eu/health/human-use/personalised-medicine_da

MOK is managed by Professor Vibeke Andersen and comprises of three research groups:

Chronic inflammatory diseases (Professor Vibeke Andersen)

The group researches understanding disease mechanisms, predicting treatment responses, and the importance of nutrition for chronic inflammatory diseases (primarily chronic bowel disease). The research group participates in numerous collaborations such as international (IIBDGC (ibdgenetics.org), SYSCID (syscid.eu) and NORDTREAT, national (TARCID and BELIEVE), regional (IBD-CARE) and local collaborations.



Clinical microbiology (senior consultant, associate professor Ming Chen)

This research group collaborates on an international level focusing on *H. pylori* and COVID-19 (USA, France and China), nationally (meningitis study and pathogen genome sequence study, and a cross-sectional study of multiresistant bacteria at Danish emergency wards) and locally (improve the understanding of the relationship between epidemics and outbreak of hospital infections, MRSA and *C. difficile* transmissions using molecular techniques).

Hospital pharmacy (research pharmacist Lene Juel Kjeldsen)

This recently established research group will focus on conducting local, national and international studies using quantitative and qualitative methods and focusing on patients' medication treatment.

Table 1: Methods used in MOK

	Microbiology	Hospital Pharmacy	Chronic Inflammatory Disease
Microscopy (including advanced microscopy)			X
Registry studies	X	X	X
Laboratory data	X	X	X
Literature studies	X	X	X
Cohort studies (retrospective)	X		X
Studies in the clinic (prospective)		X	X
Lifestyle and nutrition analyses			X
Omics			X
Clinical data		X	X