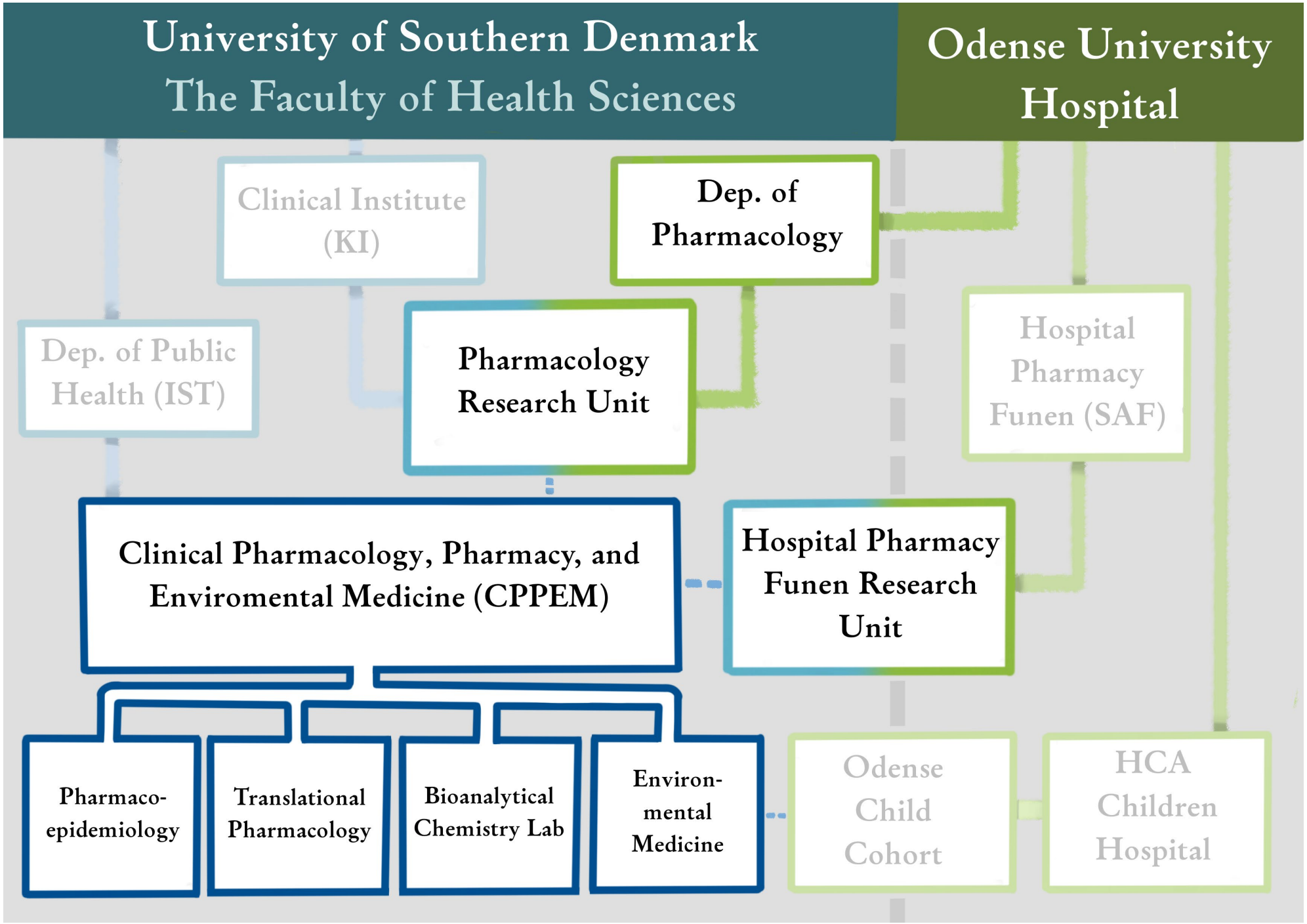
Clinical Pharmacology, Pharmacy, and Environmental Medicine (CPPEM)

Department of Public Health
University of Southern Denmark

Strategic Plan
2022-2025

Vision

CPPEM will **remain** a leading **international** research unit within pharmacology and environmental medicine, renowned for our research, that has the highest standards of research **integrity.** We **collaborate** extensively with external partners, **disseminate** research and knowledge to the public, and provide an attractive, nurturing, and inclusive **working environment** for **training** the next generation of researchers.


University of Southern Denmark
The Faculty of Health Sciences
Odense University Hospital
Clinical Institute (KI)
Dep. of Pharmacology
Dep. of Public Health (IST)
Pharmacology Research Unit
Hospital Pharmacy Funen (SAF)
Clinical Pharmacology, Pharmacy, and Enviromental Medicine (CPPEM)
Hospital Pharmacy Funen Research Unit
Pharmaco-epidemiology
Translational Pharmacology
Bioanalytical Chemistry Lab
Environ-mental Medicine
Odense Child Cohort
HCA Children Hospital

Core Values

Integrity

CPPEM promotes best practice in research integrity and publishing ethics. Specifically, this includes (i) adherence to data and ethical regulations for the health data we create or access, and documentation hereof, (ii) transparently reporting any potential conflicts of interest when publishing, (iii) adherence to the guidelines for co-authorship provided by the ICMJE, and finally, (iv) transparent reporting of study methods and, when appropriate, preregistration of protocols and making source code or source data available.

Collaboration

CPPEM aims to establish new and maintain collaborations with external stakeholders, including researchers, clinicians, industry, and regulators, both internationally, nationally, and locally. CPPEM strives to be a knowledgeable, inclusive, reliable, professional, respectful and respected partner to our collaborators.

Dissemination

We aim to communicate our research both in the scientific and the public community by publishing in recognized journals, striving to provide open access to our work, actively promoting our research at conferences or by using social and other media channels, collaborating and communicating with national and international authorities and regulators, and being visible in the media and public in both communicating our own research as well as being expert sources and opinion makers.

Working environment

CPPEM promotes and embraces diversity, equity, and inclusion by creating a respectful, positive and enjoyable working environment. All employees contribute actively to an inspiring and creative environment. The department embraces all staff and collaborators regardless of gender, ethnicity, sexual orientation, religious persuasion, life situation etc.

Training

CPPEM prioritizes the continued education of all members of staff at all levels in their career, by promoting a culture of close supervision and support, which extends beyond those in formal training positions. Further, CPPEM is dedicated to delivering high quality and research-based teaching within University of Southern Denmark and when contributing to teaching activities outside the university.

Strategic plans for subunits

Translational pharmacology (Stage group)

We contribute with novel research and high international quality training in translational pharmacology. We create synergy between the interdisciplinary qualifications of the group and collaborators. We aim to do environmentally sustainable research.

Research

We strive to be English-speaking and –writing and to have at least one international person in the group at all times

State of the art clinical pharmacokinetic (PK) or clinical trials:
- ≥1 clinical trial every other year

State of the art *in vitro* pharmacology methodology:
- Automated imaging
- Cells models (related to ADME/toxicity)
  - Liver (primary and iPSC-derived)
  - Isogenic and patient-derived iPSC models

Training

Close and attentive supervision of students:
- At all times ≥1 PhD student and postdoc
- ≥3 MSc/BSc theses students/year
- Aim to have Erasmus students

Continued training in project management for young scientists

Active participation in international societys for clinical/translational pharmacology

Group sustainability and development

We engage in activities to support a sustainable lab (e.g. Green lab initiative)

≥1.5 mio. DKK funding/year (5-year average)

One more senior researcher in the group

Collaboration

Translational pharmacology projects
- At all times ≥1 cross-department project
- At all times ≥1 collaboration with clinicians (e.g. Pharmacology, OUH or other relevant collaborators)

Continued focus on maintaining and fostering new project in collaboration with external partners

Dissemination

At least four publications/year within translational pharmacology including at least two publications/year in well-respected* journals.

We aim to disseminate our study results in layman terms through SoMe and other outlets such as videnskab.dk. Aim to participate and communicate science in at least one international and one national conference every year.

Pharmacoepidemiology

The pharmacoepidemiological research group at CPPEM is a laboratory developing methods, infrastructure and practice within pharmacoepidemiology, and an craftssman shop carrying out applied pharmacoepidemiology of the highest international quality.

Research

To continue performing studies of drug use and drug effects according to pertinent questions arisisng from clinical practice or safety concerns. At least six such publications annually.

To prioritize work within translational pharmacology, operationalized as at all times having at least three such projects ongoing.

To establish a world-leading reserach portfolio on hypothesis-generating screening studies on drug effects, incl. submision of ≥4 manuscripts related to such screening or follow-up annually.

To each year submit ≥3 manuscripts (original contributions or reviews) with a primary focus on epidemiological methods.

Complete ≥1 'expedited analyses' of emerging hypotheses regarding the safety of use of medicines each year (or one 'drill exercise' if no hypothesis emerges).

Training

To each year contribute to 10+ educational sessions within ISPE, DSFE and elsewhere on pharmacoepidemiology.

To maintain fortnightly internal educational sessions with a primary focus on PE methods.

At all times have at least 5 PhD students enrolled (main supervisors part of the PE group).

To continue offering formal project management training and –certification for all members of the group.

Group sustainability and development

Each year submit at least two major (>5mio DKK) grant applications.

Enter into smaller collaborations to obtain funding for e.g. data managers.

Collaboration

To at all times be involved in at least two regulator mandated phase IV-studies (as either coordinating center or collaborator).

To support Danish and international regulators with expert advice or actual studies when needed and to the extent possible.

Be an active contributor to international networks, in particular International Society for Pharmacoepidemiology (ISPE) and the Nordic Pharmacoepidemiology Network (NorPEN).

Dissemination

To publish fewer, yet more important and impactful publications, among other things by prioritizing and by combining multiple analyses into single publications.

Publish our findings in recognized journals (either high-impact general journals or leading specialist journals).

Present our studies at international conferences, in particular the International Conference of Pharmacoepidemiology (ICPE).

Be active in promoting our findings via social media.

Contribute as experts to the public debate and in lay media.

Environmental Medicine

The environmental medicine research group at CPPEM study adverse and beneficial health impacts related to exposures to environmental chemicals especially during vulnerable developmental time periods in pregnancy, infancy, childhood and adolescence.

Research

Our core value is to identify population exposure to hazardous chemicals– especially during vulnerable periods of development - in order to promote healthier lives and prevent exposure

To develop biomarkers of exposure and perform risk assessments of these

To be an internationally recognized research group in environmental medicine with publications in high impact journals preferably with open access

Establish cross-disciplinary collaboration within the research unit both with regard to laboratory, epidemiological, statistical and register research

Establishment of a new birth cohort

Training

Recruitment of new staff at all levels from professor to PhD students and laboratory research

Hiring of 1 assistant professor and/or 1 lecturer within the next 2 years

At all times have at least 3 PhD students enrolled

Continued high number of pregraduate, MSc and BSc students

Increase teaching of medical and pharmacy students in order to recruit future staff e.g. in environmental medicine and pharmacoepidemiology

High quality teaching at all levels both pre- and postgraduate students

Recruitment of data manager and/or statistician shared within the research unit

Continued education of VIP and TAP staff

Group sustainability and development

Employ 1 or 2 new associate or full professors before 2025

Employ post doc /lecturer before 2024

Continuous employment and education of PhD students

Collaboration both within environmental group and the research unit including shared PhD students and grants.

External funding from larger both national and international funds (>3 mill/year)

Inspire each other by research group meetings within the unit e.g VIP, PhD, TAP and in groups

Collaboration

To support and collaborate with Danish and international authorities and regulators with expert advice , especially Danish EPA

Be an active contributor to international collaborations e.g. EU and NIH

Dissemination

Publish our findings in recognized journals (either high-impact general journals or leading specialist journals).

Present our studies at international conferences

Be active in promoting our findings via social media and develop skills within this topic

Contribute as experts to the public debate and in lay media

Bioanalytical Chemistry Laboratory

The bioanalytical chemistry laboratory at CPPEM provides specialized chemical analysis of pharmaceuticals, metabolites and environmental toxicants in a wide range of human biological material as well as in-vitro samples

Research

Our primary aim is to offer advanced chemical analysis for a wide range of pharmaceuticals, metabolites and environmental toxicants in human biological samples as well as in-vitro samples in order to actively participate in and support research projects with-in pharmacology and environmental medicine.

We specializes in development of tailor-made, highly sensitive analytical methods for complicated matrices, utilizing advanced extraction and separation techniques, often based on chromatographic separation techniques and mass spectrometric detection.

We offer a state-of-art bioanalytical chemistry laboratory and has expert knowledge in targeted as well as untargeted analysis of "small molecules" in human biological samples.

Our analytical methods are validated for research use and includes quality assessment strategies and use of quality control materials.

Other relevant aims:

Our laboratory should at all times contain at least four LC-MS/MS; LC-HR/MS; GC-MS based state-of-art analytical systems in order to support internal as well as external financed research projects. Two new MS-based analytical systems should be purchased before 2026.

Successful transfer and reestablishment of all laboratory facilities and analysis from Winslowparken to new settings in NytSund in 2023.

Successful transfer of all biobanked samples to a new biobank system in NytSund.

Training

Continuous training and education of lab personal and students to new analytical techniques and advances in use of Triple Quadropole and High-Resolution Mass Spectrometry.

Training in "untargeted analysis"

Group sustainability and development

Active participant in the optimization of cross institutional shared flow process in Nyt Sund, as well as Green Lab initiative.
Optimization of flow processes for sample registration, handling, and reporting.
Increased visibility of the laboratory sections expertices in order to explore new cross institutional and external collaboration
Staff: 1 Analytical chemist and 5 laboratory technicians

Collaboration

An active contributor to national and international collaborations with research institutions, health authorities and regulators providing high quality chemical analysis of chemical substances and knowledge regarding exposure assessment.

Reference laboratory for PFAS analysis for the G-EQUAS program

Dissemination

Publication of analytical methods, quality control and results in recognized journals (either high-impact general journals or leading specialist journals).

The Research Unit at Hospital Pharmacy Funen, Odense University Hospital

The research unit at Hospital Pharmacy Funen aims to contribute to improved use of medicines for the benefit of patients, health care professionals, and our society.

The unit has three main research foci: Deprescribing, sector transitions, and clinical research within neglected clinical areas (e.g. constipation). Deprescribing is currently the main focus of the unit, with numerous ongoing projects and with the unit being part of the Odense Deprescribing Initiative (ODIN).

The unit currently involves 12 researchers (full and part time) and collaborates closely with other departments at Odense University Hospital, with CPPEM and with the University of Southern Denmark in general.

Additional details on the research unit can be read HERE
and its reserach strategy can be read HERE (both in Danish)

The Research Unit at Department of Pharmacology, Odense University Hospital

Under development…