Danish Society for Pharmacoepidemiology

Annual meeting of the Danish Society for Pharmacoepidemiology 2023
Machine learning, artificial intelligence, and the new Danish register on hospital medications

Date: November 1, 2023
Location: University of Southern Denmark, Odense Adelige Jomfrukloster, Albani Torv 6, Odense, Denmark or online

09:30	**Registration**
10:00	**Welcome** DSFE Chair Mette Bliddal
10:05	**Unleashing the power of AI and IA in pharmacoepidemiology and pharmacovigilance: Methods, opportunities and challenges** Professor Morten Andersen, University of Copenhagen
10:50	**Short break**
11:10	**One size does not fit all: Exploring heterogeneous treatment effects with causal machine learning** Professor Anders Hviid, Epidemiology Research, Statens Serum Institut
12:00	**Panel discussion** Morten Andersen and Anders Hviid moderated by the board of DSFE
12:30	**Lunch and networking**
13:30	**Oral abstract presentations** To be announced
14:00	**General assembly**
14:30	**Coffee and networking**
15:00	**Exploring the potential of the Danish National Hospital Medication Register** Senior Adviser Thyra Jart, The Danish Health Data Authority & MD Michael Asger Andersen, Department of Clinical Pharmacology, Bispebjerg and Frederiksberg Hospital
15:55	**Closing remarks** DSFE Chair Mette Bliddal
16:00	**End of meeting**

Presentation of speakers

Morten Andersen is Professor in Pharmacovigilance and head of the Pharmacovigilance Research Center at the Department of Drug Design and Pharmacology, University of Copenhagen. He is a clinical pharmacologist with more than 30 years' experience within pharmacovigilance, pharmacoepidemiology and drug utilisation research. Current projects include active surveillance of drug safety using healthcare data, signal detection and rapid evaluation, studies of long-term adverse effects, and multi-country database network studies. His research involves data-driven approaches, automated analytics for big healthcare data, artificial intelligence and machine learning. He is leading the Nordic COHERENCE project (Nordic COllaborative HEalth REgister Network for Covid-19 Epidemiology).

Anders Hviid is Department Head of Epidemiology Research at Statens Serum Institut and Professor of Pharmacoepidemiology at the Department of Drug Design and Pharmacology, University of Copenhagen. Professor Anders Hviid's most significant contributions to pharmacoepidemiology has been his work on the safety and effectiveness of vaccines, and drug use during pregnancy. He holds a Data Science Investigator grant from the Novo Nordisk Foundation focusing on the use of causal machine learning to study heterogeneous treatment effects in observational data. He has a number of other interests in the intersection between pharmacoepidemiology and data science including the use of unsupervised machine learning to characterise real-world drug use patterns. He is a participant in the PHAIR project, an Innovation Fund Denmark supported collaboration, building tools for the pharmacovigilance of tomorrow.

Thyra Jart, MPH, MSc (Econ. & Bus. Adm.) is Senior Adviser at The Danish Health Data Authority (Sundhedsdatastyrelsen). She is currently the program manager of 'Data i det nære sundhedsvæsen' – a program which in 4 years will establish 3 new national data registers (data from municipalities, data from general practitioners and data from practicing specialists) and put the data into use. She has worked as a project manager on the National Hospital Medication Register (Sygehusmedicinregisteret (SMR)) during the initial development of the register and later on the SMR2-project which focused on improving the data quality of SMR. Thyra Jart has primarily worked in business development and project management in her more than 20 years within health care IT and data in private and public sector. Several of the projects she has been managing in public sector have been national and involved several sectors – one being the first version of the Personal Health Record (Sundhedsjournalen). Before rejoining The Danish Health Data Authority in 2021, she worked for a global contract research organization as a Market Development Manager within Real-World & Analytics Solutions in the Nordic countries. Early in her career, she - for a number of years - worked as a consultant in global data projects in the postal sector which gave her insights into e.g., statistical design and quality assurance on large scale data projects.

Michael Asger Andersen, MD, PhD, is a dedicated clinical pharmacologist in training with a strong background in research and epidemiology. Dr. Andersen completed his internship at the Department of Clinical Pharmacology at Bispebjerg and Frederiksberg Hospital, where he was involved in assessing the National Hospital Medication Register, using immunotherapy as a case study. A graduate of the University of Copenhagen, Dr. Andersen holds both an MD and a PhD degree. His pivotal research on patients with chronic lymphocytic leukemia (CLL) uncovered a high risk of infections, which has subsequently inspired numerous studies. Among these is the development of an innovative machine learning model that combines infection risks and disease progression into a single outcome. This groundbreaking work has led to the PreVentACall randomized clinical trial, which holds significant implications for patients with CLL.

Dr. Andersen also contributed to the COVID-19 pandemic response as an epidemiologist in training, working with real-time national registers at the Department of Infectious Disease Epidemiology & Prevention at Statens Serum Institut (SSI).

Currently, Dr. Andersen is committed to explore ways to translate and implement pharmacogenetics and therapeutic drug monitoring into the clinical setting. His goal is to enhance patient care by providing more effective and safer treatments through the application of these techniques.