

13th annual meeting

NorPEN

Nordic PharmacoEpidemiological Network



November 11-12th 2021
Karolinska Institutet, Stockholm

Pre-conference course

A general overview of G methods in relation to pharmacoepidemiology

Wednesday November 10th

**14.00 to
18.00**

Online participation only

G-methods is a class of methods for estimating the causal effects of time-varying treatment strategies in longitudinal studies where time-varying confounders may be affected by past treatment. G-methods specifically aim to estimate Robins's *g-formula*, a function of only measured study variables. Under assumptions that include no unmeasured confounding, the *g-formula* indexed by a particular time-varying treatment strategy equals the (counterfactual) outcome mean in the study population had all individuals adhered to that strategy. The *g-formula* is usually a high-dimensional function when the dimension of measured confounders is high and/or there are many follow-up times. Different *g-methods* (e.g. inverse probability weighting, parametric *g-computation*, targeted maximum likelihood estimation) constitute different estimation methods for this function of the longitudinal data.

In this workshop, attendees will gain a greater understanding of the theory that motivates these methods for causal effects. This theory will cover various types of treatment rules, from simple *static deterministic* rules to more complex *dynamic stochastic* rules. Details of various estimation algorithms will be provided along with motivating examples

Instructor: Jessica Young, PhD

Associate Professor and Biostatistician

Department of Population Medicine, Harvard Medical School and Harvard Pilgrim

Health Care Institute, Department of Population Medicine, USA

CAUSALab, Harvard T.H. Chan School of Public Health

Dr Young's research focuses on the development and application of statistical methods for estimating policy and clinically relevant causal effects of time-varying treatment strategies on health outcomes in the face of complex time-varying confounding and selection bias, competing events and treatments that are challenging to measure.

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Final Program

Theme: Sustainability of Nordic Collaboration

Thursday November 11th	
9.00-9.10	Welcome and Introduction Björn Pasternak, Karolinska Institutet, Sweden
9.10-10.30	Session 1-1: Sustainability - Overcoming challenges of Nordic data sharing Moderator: Björn Wettermark, Uppsala University, Sweden <ul style="list-style-type: none"> • <i>Nordic Common Data Models</i> Morten Andersen, University of Copenhagen, Denmark • <i>Federated Analyses, data sharing rules and limitations</i> Rolf Gedeborg, Swedish Medical Products Agency, Sweden • <i>Moderated discussion with speakers and participants</i>
10.30-10.50 <i>20 min</i>	Break / Online mingle
10.50-11.50	Session 1-2: Oral Presentations 1: Medication Use in Pregnancy Moderator: Zheng Chang, Karolinska Institutet, Sweden <ul style="list-style-type: none"> • <i>Prenatal antibiotic exposure and subsequent infant infections: Preliminary results from a register-based cohort study in Sweden with sibling analysis</i> Aya Olivia Nakitanda, Karolinska Institutet, Sweden • <i>Maternal use of hormonal contraception and risk of childhood autism spectrum disorders – a nationwide population-based cohort study</i> Caroline H Hemmingsen, Danish Cancer Society Research Centre, Denmark • <i>Is intake of folate during pregnancy, including folic acid supplementation, associated with risk of cerebral palsy in the child – a MOBAND-CP cohort study</i> Tanja G. Petersen, University of Copenhagen, Denmark • <i>Use of ADHD medication in pregnancy in Norway and Sweden, 2010-2019</i> Jacqueline M Cohen, Norwegian Institute of Public Health, Norway • <i>Prenatal exposure to antiseizure medication and child risk of neurodevelopmental disorders - a cross-Nordic cohort study</i> Marte-Helene Bjørk, Department of Clinical Medicine, University of Bergen, Norway
11.50-12.00 <i>10 min</i>	Break

<p>12.00-12.20 3 min each</p>	<p>Session 1-3: PharmacoepiSLAM 1: Psychiatric Pharmacoepidemiology Part 1</p> <ul style="list-style-type: none"> • <i>Melatonin use among children, adolescents, and young adults. A Danish nationwide drug utilization study</i> Mette Bliddal, University of Southern Denmark and Odense University Hospital, Denmark • <i>Psychotropic drug prescription in pregnant women with severe mental disorder in Minsk, Belarus</i> Olga Kazakova, Lund University, Sweden • <i>Selective serotonin reuptake inhibitors and suicidal behaviour: a population-based cohort study</i> Tyra Lagerberg, Karolinska Institutet, Sweden • <i>Allopurinol, dipyridamole and calcium channel blockers in the treatment of bipolar disorder – a nationwide cohort study</i> Jonne Lintunen, Niuvanniemi Hospital, University of Eastern Finland, Finland • <i>Antidepressant use and risk of psychiatric rehospitalization in patients with schizophrenia</i> Arto Puranen, Niuvanniemi Hospital, University of Eastern Finland, Finland • <i>Antidepressant use among children and adolescents across the Scandinavian countries</i> Lotte Rasmussen, University of Southern Denmark
<p>12.20-13.05 45 min</p>	<p style="text-align: center;">Lunch break</p>
<p>13.05-13.25 3 min each</p>	<p>Session 1-4: PharmacoepiSLAMs 2: Psychiatric Pharmacoepidemiology Part 2</p> <ul style="list-style-type: none"> • <i>Incidence of hospital-contacts with a diagnosis of acute kidney injury after initiation of second-generation antipsychotics in older adults: A Danish population-based cohort study</i> Reeha K Sharon, University of Copenhagen, Copenhagen, Denmark • <i>Use of attention deficit hyperactivity disorder medication among children and adolescents in Scandinavia</i> Anne Mette Skov Sørensen, Bispebjerg and Frederiksberg Hospital, Copenhagen, Denmark • <i>Antidepressant fill trajectories in pregnant women with depression and/or anxiety in Norway: results from a registry linkage study</i> Nhung TH Trinh, University of Oslo, Oslo, Norway • <i>Antidepressant and hypnotic use among Scandinavian youths</i> Rikke Wesselhoeft, University of Southern Denmark, Denmark • <i>Comorbid migraine and stimulant treatment discontinuity in ADHD</i> Le Zhang, Karolinska Institutet, Sweden • <i>Kidney function and prescribed dose in patients starting selective serotonin reuptake inhibitors</i> Nanbo Zhu, Karolinska Institutet, Sweden
<p>13.25-13.35 10 min</p>	<p style="text-align: center;">Break</p>

13.35-17.00	<p>Session 1-5: Observational effectiveness studies, pragmatic trials, and their value to regulatory decisions</p> <p>Moderator: Björn Pasternak, Karolinska Institutet, Sweden</p> <ul style="list-style-type: none"> • <i>Register randomized trials</i> Stefan James, Uppsala University, Sweden • <i>Real-world effectiveness studies submitted to EMA, 2018-2019: lessons learnt and perspectives</i> Xavier Kurz, Head, Data Analytics Workstream, European Medicines Agency, Amsterdam, The Netherlands • <i>Industry perspective</i> Claudia Cabrera, AstraZeneca, Sweden
15.20-15.30 10 min	Break
	<ul style="list-style-type: none"> • <i>How can observational data be used for Health Technology Assessment?</i> Anders Viberg, The Dental and Pharmaceutical Benefits Agency, Sweden • <i>Can RWE with claims data come to causal conclusions on treatment effects? Calibration against RCTs</i> Sebastian Schneeweiss, Brigham and Women's Hospital, Division of Pharmacoepidemiology and Pharmacoeconomics, Harvard Medical School • <i>Moderated panel discussion with session speakers</i>

Friday November 12th	
8.30-9.45	<p>Session 2-1: Sustainability – Upcoming Nordic Data Sources and Avenues for Access Moderator: Rickard Ljung, Swedish Medical Products Agency, Sweden</p> <ul style="list-style-type: none"> • <i>Natural language processing for prescription text</i> Zheng Chang, Karolinska Institutet, Sweden • <i>The new Danish Hospital Medication Register</i> Dorte Vesterholm Lind, Sundhedsdatastyrelsen, Denmark • <i>Changes to data request processing and delivery to researchers in the COVID19-era</i> Anna Bennet Bark, Swedish National Board of Health and Welfare, Sweden • <i>Moderated discussion with speakers and participants</i>
9.45-9.55 10 min	Break
9.55-10.25 3 min each	<p>Session 2-2: PharmacoepiSLAMs 3</p> <ul style="list-style-type: none"> • <i>Prevalence of oral anticoagulant use among people with and without Alzheimer's disease</i> Barkat Babar, University of Eastern Finland, Finland • <i>Natural Language Processing for extracting biomarkers from case notes</i> Bine Kjøller Bjerregaard, IQVIA Solutions • <i>Non-adherence and sub-optimal treatment with asthma medications in young adults: a population-based cohort study</i> Elin Dahlén, Södersjukhuset, Karolinska Institutet • <i>Characteristics and outcomes of COVID-19 patients with preexisting COPD in Sweden: A population-based register study</i> Brian Kibiwott Kirui, University of Gothenburg, Sweden • <i>Allergen-specific immunotherapy and incidence of asthma: a nationwide register-based study</i> Katja Biering Leth-Møller, Frederiksberg and Bispebjerg Hospital, Denmark. • <i>Prescribing pattern for anti-hypertensive medicines in patients with confirmed Covid-19 - a population based cohort study in Sweden</i> Salar Issa Mousa, Uppsala University, Sweden • <i>Disease-modifying anti-rheumatic drugs and risk of Parkinson's disease: nested case-control study of people with rheumatoid arthritis</i> Anne Paakinaho, University of Eastern Finland, Finland • <i>Prevalence and characteristics of drug-drug interactions among hospitalised patients in the Capital Region of Denmark</i> Hans Kristian Råket Pedersen, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Denmark
10.25-10.55	<p>Session 2-3: Methods – An application of g-methods Moderator: Laura Pazzagli, Karolinska Institutet, Sweden Xiaojuan Li, Harvard Medical School and Harvard Pilgrim Health Care Institute, Department of Population Medicine, USA</p>
10.55-11.05 10 min	Break

<p>11.05-12.05</p>	<p>Session 2-4: Oral Presentations 2 Moderator: Laura Pazzagli, Karolinska Institutet, Sweden</p> <ul style="list-style-type: none"> • <i>Sodium-glucose co-transporter 2 inhibitor treatment and risk of new-onset atrial fibrillation: Scandinavian cohort study</i> Arvid Engström, Karolinska Institutet, Sweden • <i>Protective effects of statin treatment on COVID-19 risk, severity and fatal outcome – a nationwide Swedish cohort study</i> Ailiana Santosa, University of Gothenburg, Sweden • <i>Effectiveness of antipsychotics on work disability in persons with first-episode non-affective psychosis</i> Heidi Taipale, Karolinska Institutet, Sweden and Niuvanniemi Hospital, Finland • <i>Medicine use and Biological aging: a longitudinal study</i> Bowen Tang, Karolinska Institutet, Sweden • <i>Use of hormonal contraceptives and antidepressants and risks of suicidal behavior and accidents among women with premenstrual disorders: a nationwide cohort study</i> Qian Yang, Karolinska Institutet, Sweden
<p>12.05-12.15 10 min</p>	<p style="text-align: center;">Break</p>
<p>12.15-12.40 3 min each</p>	<p>Session 2-5: PharmacoepiSLAMs 4</p> <ul style="list-style-type: none"> • <i>Characteristics of patients undergoing percutaneous coronary intervention in Norway 2013-17: initiation of antiplatelet drugs</i> Per-Jostein Samuelsen, University Hospital of North Norway, Norway • <i>Use of sildenafil and other phosphodiesterase type 5 inhibitors among pregnant women in Scandinavia</i> Silvia Segovia Chacón, Karolinska Institutet, Sweden • <i>Mapping of Outcomes and Registries used in Current Danish Pharmacoepidemiological Research</i> Charlotte Thor Petersen, DLI Market Intelligence and Life Science Insight Centre, Copenhagen, Denmark • <i>Fatal Zopiclone Intoxications in Sweden during 2012-2020</i> Lova Tralla, National Board of Forensic Medicine, Sweden • <i>Evaluation of Paracetamol and Ibuprofen Prescribing for Pediatric Patients in Primary Care</i> Caner Vizdiklar, Marmara University, Turkey • <i>Statin discontinuation in persons with and without Alzheimer's Disease</i> Mai Vu, University of Eastern Finland, Finland • <i>Trends in inappropriate drug use among older adults in Sweden: Regional variation from 2006 to 2015</i> Jonas W. Wastesson, Karolinska Institutet, Sweden
<p>12.40-12.50</p>	<p>Past, Present & Future of Nordic Pharmacoepidemiology Collaboration Helle Kieler, Karolinska Institutet, Sweden</p>
<p>12.50-13.00</p>	<p>Wrap up and announcement of NorPEN 2022 Björn Pasternak Leena Saastamoinen, Chair of the NorPEN Executive Committee</p>