



**FORTE Network Meeting, Ystad Saltsjöbad, Skåne, 8 - 9 September 2016**

## **Methodological issues in register-based research**

### **Theme: Causality and Causal inference**

Organizers: Anders Ahlbom, Jonas Björk, Anita Berglund, Kirk Scott

#### **Thursday 8 September 2016**

- 12:00** Lunch
- 13:00** Introduction to the FORTE network
  - Outcome of previous year and continuation
  - Aim of the meeting. Procedures. Expected outcomes.
  - Presentation of participants
- 13:30** Causality and causal inference – presentations and discussions x 4 (see separate page)
- 15:30** Coffee break
- 15:50** Causality and causal inference – presentations and discussions x 4, cont. (see separate page)
- 17:50** Introduction to group work
- 18:10** Relaxation
- 19:30** Dinner

#### **Friday 9 September 2016**

- 09:00** Group discussions - Differing views of causality and approaches to causal inference across disciplines in register-based research
  - Coffee during discussions
- 10:30** Presentations
- 12:00** Summing up. Future network activities.
- 12:15** Lunch
- 13:00** - 15:00. Concluding visit to the spa (optional)

## **FORTE Network Meeting – General information**

### **Aim**

The aim of the FORTE Network 2016 – 2018 is to strengthening the position of Swedish register-based research, partly through increased knowledge and shared experiences regarding adequate scientific approaches and partly by forming new long-term partnerships between significant research groups in Epidemiology and Demography, both at junior and senior levels.

### **Format**

This is by no means a traditional conference where you passively listen to lectures and presentations. Instead, the format will be informal introductions (see abstracts on next page) followed by lively discussions. Although only a few have been asked to prepare presentations, active preparation and participation is expected from everyone and is crucial for a successful and rewarding meeting.

### **Expected outcome**

FORTE requires that results of the network meetings are reported. New insights, methodological ideas, clarification of concepts etc. across the disciplines that merit further work and publication as short communications or original papers are encouraged.

### **Participation**

The network funding will cover accommodation but not travelling costs.

Please notify Anna E Larsson ([anna\\_e.larsson@med.lu.se](mailto:anna_e.larsson@med.lu.se)) about your participation by e-mail no later than 30 June 2016. Inform Anna about any special dietary requests that you might have.

### **Travelling to Ystad Saltsjöbad**

Please see <http://www.yzb.se/om-oss/vagbeskrivning/> or <http://www.yzb.se/om-oss/vagbeskrivning/?lang=en> for information on how to get to the meeting.

## **Causality and Causal inference – Presentations**

### **1. The classical view of causality in Epidemiology**

**Lars Alfredsson, Karolinska institutet**

The aim of etiologic epidemiology is to identify causes of disease and to characterize them. If an association between exposure and disease is found in a study there are in principle three options for explanation: causation, systematic error, and chance and these options are assessed as part of the study. The outcome is evaluated in light of previous epidemiologic research and biological and other prior information. Based on this a conclusion regarding causality is formed.

### **2. Causation in Demography – Micro and macro perspectives**

**Gunnar Andersson, Stockholm University**

Demography involves the study of longitudinal processes consisting of demographic events and exposures of time to event (or censoring). The nature of demographic data puts particular demands on the appropriate handling of the order of events and exposure time under risk. Only a previous state can have a causal impact on later outcomes. Demographic analyses typically build on micro-level data that has to be arranged without conditioning on any future events or states. When studying the impact of some macro-level factors on micro-level behavior, one needs consider how to differentiate between different levels of exposure to the macro-level factors concerned.

### **3. Causality in Economics and the credibility revolution**

**Petter Lundborg, Lund University**

Modern economic research uses design-based approaches that emphasize the identification of causal effects. Design-based studies typically feature either real or natural experiments and are distinguished by their prima facie credibility and by the attention investigators devote to making the case for a causal interpretation of the findings their designs generate. In this talk, I will discuss the background behind this “credibility revolution” in economics, its pros and cons, and some of the most popular methods currently used.

### **4. Causal Inference - insights from new methodology**

**Johan Hallqvist, Uppsala University**

Inspired by recent developments in causal inference research modern epidemiology aims at estimating causal effects with help of various abstract causal models like the sufficient-component cause model, counterfactuals, potential outcomes and directed acyclic graphs. Related concepts and methodology will be illustrated in an example of disentangling mediation and interaction mechanisms explaining disease etiology.