Risk Adjustment in Payment Systems: Emerging Topics and New Research

Pre-conference workshop for EuHEA conference 2022 in Oslo. July 5th, from 9am to 4pm

<u>Workshop description:</u>

Many payment systems in health insurance and healthcare rely on risk adjustment to avoid incentives for risk selection and/or achieve fairness objectives. Over the past four decades, risk adjustment algorithms have evolved from simple demographic models to sophisticated morbidity models using health indicators based on diagnoses and other information derived from (prior) healthcare utilization. Despite these improvements, however, substantial selection incentives and fairness issues remain. Around the world, regulators of healthcare systems and payers of care (typically governments or insurers) face the challenge of further improving their risk adjustment methods. In this workshop, we will discuss emerging topics and new research.

The objective for the session is three-fold:

1. Summarize recent research on risk adjustment. Topics will include the selection and operationalization of risk adjuster variables, and innovative methods for estimating payment weights using machine learning and constrained regression. We will also discuss the economic relevance of choosing an 'appropriate' set of evaluation metrics and the 'right' objective function, and how this choice can be accounted for in empirical methods for risk adjustment.

2. Summarize recent research on risk sharing. It is well-known that risk sharing (i.e., retrospective payments based on realized spending) can be a useful supplement to risk adjustment. In this session we will discuss a series of novel risk sharing methods that target retrospective payments to patients for whom risk adjustment falls short. Examples include high-risk pooling using machine learning, residual-based (re)payments, and two-sided reinsurance. We will also discuss how risk sharing can be taken into account when estimating risk adjustment weights.

3. Connect researchers interested in risk adjustment and risk sharing and identify topics for future research and collaboration. Most of the literature summarized under objectives 1 and 2 is from the field of health insurance, in which research on risk adjustment and risk sharing is most developed. Many of these topics, however, are relevant for other fields/applications too. An important goal of this session is to bring together researchers from these different fields and identify topics for future research. Three applications will be considered: risk equalization in health insurance; risk adjustment of provider payments; and risk adjustment of regional funds.

<u>Speakers:</u>

Professor Shuli Brammli (Hebrew University of Jerusalem)
Professor Randall Ellis (Boston University)
Dr. Lukas Kauer (University of Lucerne)
Dr. Emmanouil Mentzakis (University of Southampton)
Professor Francesco Paolucci (University of Bologna)
Professor Wynand van de Ven (Erasmus University Rotterdam)
Dr. Richard van Kleef (Erasmus University Rotterdam)
Professor Juergen Wasem (University of Duisburg-Essen)

Program:

Time	Topic	Speakers
09:00 – 09:30	**Introduction** • Objectives, outline and speakers • Key concepts & definitions • Measuring the performance of payment models	Richard van Kleef
09:30 – 10:30	**New developments: Risk adjusters** • Information used for risk adjustment • Developments in disease classifications • Variable selection and model specification • Adjusting for upcoding and selection incentives	Randall Ellis
10:30 – 10:45	Coffee break	
10:45 – 11:15	**New developments: Payment weights** • Is least-squares the right objective function? • Alternative objective functions • Constrained regressions	Richard van Kleef
11:15 – 12:00	**New developments: Risk sharing** • Residual-based (re)payments • Optimizing RA weights in the presence of risk sharing • Risk sharing as a supplement to imperfect RA	Francesco Paolucci Richard van Kleef
12:00 – 13:00	Lunch	
13:00 – 13:45	**Risk adjustment in insurance markets** • Lessons learned • Ongoing issues • Directions for further research	Wynand van de Ven Juergen Wasem
13:45 – 14:30	**Risk adjustment in provider payment systems** • Lessons learned • Ongoing issues • Directions for further research	Shuli Brammli Lukas Kauer
14:30 – 14:45	Coffee break	
14:45 – 15:30	**Risk adjustment of regional funds** • Lessons learned • Ongoing issues • Directions for further research	Francesco Paolucci Emanouil Mentzakis
15:30 – 16:00	**Panel discussion:** Ongoing issues and research directions	All speakers

For more information and registration: https://www.euhea.eu/workshops_conference_2022.html