

Coordinator and speakers

Workshop coordinator

Javier Mar
Alto Deba Integrated Health Organisation, Mondragón.

Speakers

Richard Grieve,
PhD, Professor of Health Economics Methodology, London School of Hygiene and Tropical Medicine, London, UK

Richard leads a research team whose current research focuses on developing quantitative methods for health economic evaluation. His expertise is in the design and analysis of health economic evaluations that use observational data as well as RCTs. They are developing methods that address common methodological issues such as confounding due to treatment selection; non-compliance, missing data, and external validity. His main research interests are in developing analytical methods for cost-effectiveness analyses. His current work aims to develop more appropriate analytical methods for dealing with selection bias, missing data and clustered data. He has ongoing interests in applying the techniques of economic evaluation across a diverse range of clinical areas including adult and paediatric intensive care, hepatitis C, mental health, and for routine surgical procedures.

Stephen O'Neill,
Stephen is a Lecturer in Economics (Health Economics and Ageing) at NUI Galway and is now a Visiting Research Fellow at the London School of Hygiene and Tropical Medicine.

Stephen's primary research interests are in health economics and micro-econometric methods. Stephen is particularly interested in translating methods from other fields within economics and from disciplines such as biostatistics, epidemiology, political analysis and sociology, to the health economics domain. This research seeks to address issues such as (1) accounting for unobserved confounding (endogeneity) in observational data, (2) assessing and improving the external validity of estimates based on trial data used in conjunction with observational data, (3) estimating heterogeneous and individualized treatment effects (4) using 'Big Data' and Machine Learning methods to improve the modelling of health data and (5) using insights from the Causal Mediation literature to enhance the usefulness of decision models.

Headquarters

Alfredo Kraus Auditorium
Las Palmas de Gran Canaria

Registration

You need not be registered for the 38th Conference of the Spanish Health Economics Association in order to participate in the workshop. Places are limited.

The registration fee is €10 for participants who are registered for the Conference and €100 for participants who are not registered for the Conference.

ASOCIACIÓN DE ECONOMÍA DE LA SALUD - C/ Bonaire, 7 08301 Mataró (BARCELONA)
Tel. 93 755 23 82 | Fax. 93 755 23 83 | secretaria@aes.es

PRE-CONFERENCE WORKSHOP

Advanced Methods for Addressing Selection Bias in Real-World Effectiveness and Cost-Effectiveness Studies

Tuesday 19 June 2018



Presentation

The **Spanish Health Economics Association (AES)** announces the “Advanced Methods for Addressing Selection Bias in Real-World Effectiveness and Cost-Effectiveness Studies” pre-congress workshop, which will precede the 38th Health Economics Conference.

Taking decisions in the healthcare system requires real-world evidence on the effectiveness and cost-effectiveness of organisational models, medicinal products and healthcare technology. In many settings, clinical trial data (RCT) is unavailable, insufficient or very difficult to obtain. When non-randomised data is used to estimate the effectiveness and cost-effectiveness of treatment, the main methodological challenge is selection bias from confounding by indication. Standard regression or propensity score methods are frequently used to adjust selection bias, but estimates of treatment effectiveness may be highly sensitive to the parametric form chosen from these models. Although the most advanced methods of control of biases related to non-randomisation cannot offer a panacea, they have been shown to provide estimates of treatment effectiveness that are relatively robust.

This course offers an in-depth description of cutting-edge methods for addressing this form of selection bias. These methods include flexible regression which uses machine learning for model selection, propensity score matching with regression adjustment, and Genetic Matching, a recently developed approach that extends the propensity score matching achieved in the comparability of clinical practice data samples. The course introduces participants to these methods using R software through a series of real-world data examples. The lecturers will also demonstrate sensitivity analyses which show the extent to which effectiveness and cost-effectiveness estimates are robust to the assumption of no unobserved confounding.

Participants who wish to have hands-on experience must bring their personal laptops with the appropriate software installed (R).

Programme

11:30 - 12:00 h Registration

12:00 - 12:20 h **Introduction**

12:20 - 14:00 h **Statistical methods to address confounding**

- Framework
 - Regression
 - Propensity score matching
 - Genetic Matching
 - Introduction to practical
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14:00 - 14:45 h **Lunch**

14:45 - 15:30 h **Practical- Genetic Matching**

15:30 - 16:45 h **Extensions**

- Sensitivity analysis for unobserved confounding
- Population-adjusted indirect comparisons
- Area level interventions and longitudinal data