Summer School on Health Technology Assessment (HTA)

9th September 2015, 12:45-14:00

School of Engineering, room 105

Dr. Christian BOEHLER

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Title: Using the monitoring and assessment tool for the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) for the early technology assessment of a planned device to predict falls in the elderly

Abstract

Falls can lead to severe health consequences for the individual and are associated with substantial cost to health and care systems and it is estimated that up to one third of all falls happen straight after standing up from a bed or chair. It is possible that a sudden drop in blood pressure shortly after rising is the cause for many of these falls and a recent observational study suggested that the blood pressure after standing up can be predicted with high accuracy based on the ECG registered during the five minutes before rising (82.5% accuracy; false positive 10%; false negative 7.5%). This study aims to inform the design of a device that could warn patients about the immanent risk of falling based on a drop in blood pressure after rising in an early assessment of the health and economic outcomes of such a technology. The monitoring and assessment tool for the European Innovation Partnership on Active and Healthy Ageing (MAFEIP-tool) was used in order to predict the potential impact of such a device on the number of falls and subsequent health outcomes as well as the impact on healthcare utilisation. The tool rests on a three-state Markov process (including baseline health status, deteriorated health status (i.e. a fall) and death), which allows estimating the probability of patients having a post-fall event with severe health consequences. Health states were valued using EQ-5D data from the literature and resource use was estimated based on the documented consequences of falls in a UK hospital setting. The probability of a fall following a sudden drop of blood pressure and the likelihood to prevent a fall through an alarm triggered by such a drop in blood pressure during standing up were elicited from a group of falls experts with various backgrounds, including participants of the EIP on AHAs Action Group A2 on falls prevention. Key drivers of health and economic outcomes of the planned intervention were assessed through extensive sensitivity and scenario analyses. With this study we were not just be able to assess the potential impact of a planned warning device for the prevention of in-hospital falls, but also the value of the EIP on AHA monitoring tool for the early evaluation and the pre-market assessment of new and innovative health technologies.

COST Action BM1309

"EUROPEAN NETWORK FOR INNOVATIVE USES OF EMFS IN BIOMEDICAL APPLICATIONS"

The talk will be followed by a round table with the other speakers of the Summer School on HTA:

- (Chair) Dr **Rosanna Tarricone**, Director of "Centre for Health and Social Care Management (CERGAS) at Bocconi University, Italy
- Dr **Mark Bale**, Deputy Director, Genomics Science & Emerging Therapies, Health Science & Bioethics Division, Public and International Health Directorate (PIHD), Department of Health
- Dr **Marjan Hummel**, University of Twente, The Nederland and Secretary of the HTA Division of the IFMB
- Dr **Oriana Ciani**, Institute of Health Research and ESMI, Exeter University, UK

Short Biography

As a member of the E-Health team of the Information Society Unit based at the European Commission's Joint Research Centre (JRC), Institute for Prospective Technological Studies (IPTS) in Seville, Spain, I am primarily involved in the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) policy initiative. As primary investigator of the 'MAFEIP-project', I am responsible for developing a monitoring and assessment framework in order to link health and economic outcomes of interventions undertaken in the EIP on AHA and the overall EIP on AHA objectives (improved quality of life and sustainability of health systems).This involves reviewing and analysing policy relevant data, developing indicators and economic models, monitoring progress, and developing a web based tool based on a Markov process in order to assess health and economic impacts of EIP on AHA interventions, which ultimately feeds into the development of recommendations for policy making. Before joining the IPTS, I completed my PhD in health economics at Brunel Universities' Health Economics Research Group (HERG) in London. My thesis was concerned with the geographic transferability of health economics studies using multilevel statistical modelling to assess variability in, and adjust results of, cost-effectiveness analyses conducted across different countries. Before that, I worked as a research fellow at HERG, looking into the cost-effectiveness of physical activity interventions and the prioritisation of clinical preventive services. Prior to joining HERG, I obtained a MSc in Health Economics from the University of York and a German Diploma in Health Economics and Management from the University of Applied Sciences in Ludwigshafen, Germany. I am a honorary lecturer at the University of Sheffield, School of Health & Related Research/Health Economics and Decision Sciences and acquired previous industry experience in the healthcare sector whilst working for different consultancies based in London and Budapest. During this time, my work focused on health economics and public health issues particularly in the context of middle income European economies. I am also a state approved health insurance professional with years of experience from working for a social health insurance company in Frankfurt/Main, Germany.