



Centre For Health Economics

Health Economics News

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Welcome to the CHE Newsletter

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Courses and Workshops

The Centre for Health Economics (CHE) offers a programme of short courses and workshops in health economics.

More details here [www](http://www.york.ac.uk/che)

SHORT COURSES IN
Health Economics and
Economic Evaluation
2020



Do bigger hospitals really get better health outcomes?

Project Team: Laurie Rachet-Jacquet, Nils Gutacker, Luigi Siciliani

Many studies have shown that health outcomes after surgery are better in hospitals that perform the surgery frequently. It is often assumed that this volume-outcome effect happens because hospital staff and doctors learn through repetition as 'practice makes perfect'. However, an alternative explanation is that hospitals with better quality have a better reputation and attract more patients. In this case, the apparent relationship between volume and outcomes is reversed.

This study investigates whether hospital volume has a causal effect on the health improvement that patients get from hip replacements. We use data on patients' self-reported health before and after surgery collected in English NHS hospitals as part of the national PROM (patient-reported outcomes measures) survey. Using a statistical model of hospital choice, we calculate which volumes we would expect to see if patients were choosing hospitals based solely on distance. By design, these volumes are not affected by hospitals' reputation.

Our results suggest that the observed volume-outcome association in hip replacement surgery is clinically small. We do not find evidence that higher volumes improve patient outcomes per se. Instead, reputation may attract more patients to better hospitals.

For more details, see full paper here: [www](http://www.york.ac.uk/che/publications)

This project received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 721402.



Athena Swan

CHE has been awarded a Silver Athena SWAN award, a national charter which recognises advancement of gender equality in higher education employment. CHE is the first department in the University of York Faculty of Social Sciences to gain a Silver award.

"Everyone in CHE is absolutely thrilled with getting a Silver Athena SWAN award. This is a recognition for the whole department of how we've worked together collaboratively to take forward actions that deliver the benefits of a truly inclusive and positive workplace culture that is making a real difference to staff and students."

Maria Goddard, Director of CHE and Rowena Jacobs, Chair of CHE's Equality and Diversity Action Team (EDAT)



Can machine learning help answer causal questions?

Project Team: Noemi Kreif (CHE), Karla Diaz Ordaz (London School of Hygiene and Tropical Medicine)

While machine learning methods have received a lot of attention in recent years, these methods were primarily geared for prediction, such as diagnosing a tumour mutation from an image. Empirical researchers conducting health policy evaluations are, on the other hand, preoccupied with causal problems: what would have happened in the absence of a policy? In the last decade, major methodological innovations have taken place that incorporate insights from machine learning to strengthen



causal inference. CHE Research Fellow Noemi Kreif (pictured), in collaboration with Karla Diaz Ordaz (LSHTM) provide an overview of such approaches, in a recently published

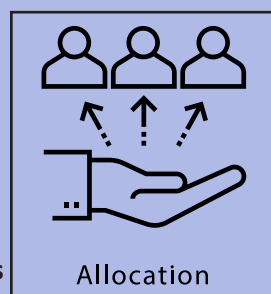
chapter of the Oxford Research Encyclopaedia of Economics and Finance. They introduce the main concepts of supervised machine learning in an intuitive way, such as the bias-variance trade off and cross validation, alongside popular algorithms including trees-based methods and the lasso. Then, using a policy evaluation of social health insurance in Indonesia, they illustrate specific uses of machine learning for treatment effect estimation, including matching methods that aim to maximise balance among treated and control groups, and so-called double robust or 'double-machine learning' approaches. They conclude with a recommendation to routinely incorporate semi-automated approaches than can select the models best supported by the observed data, thus attenuating the reliance on subjective choices in empirical research. The R code to implement the analysis is available on [GitHub](#).

Link to the article is here: www.oxfordre.com/economics/abstract/doi/10.1093/oxfordre/ehp/ehp001

Evaluating interventions with costs and effects falling on multiple sectors

Project Team: Simon Walker, Susan Griffin, Mark Sculpher (CHE), Miqdad Asaria (LSE), Aki Tsuchiya (Sheffield University)

Economic evaluation supports decisions by examining the resource requirements and outcomes of alternative options. When supporting decisions that impact across multiple sectors, a 'societal' perspective that includes all possible effects is often advocated; however, little practical guidance has been given on how to achieve this. Recent CHE research, funded as part of the [Public Health Research Consortium](#), outlines a framework for economic evaluations to offer practical support for such decisions. The work extends the concept of the 'impact inventory' developed by the [Second Panel on Cost-Effectiveness in Health and Medicine](#). The framework sets out a series of assessments and distinguishes clearly which are questions of fact and which rely on value judgements. It asks analysts to consult on the principles and values relevant to the decision setting from decision makers invested with the relevant authority, and/or from those impacted by the decision. This determines what outcomes to include, and on what basis to inform the relative values of the outcomes. Evidence can then inform factual questions about the consequences of each decision for each outcome, and what could alternatively be gained from the resources utilised (or freed up) as a consequence of the decision. For example, what outcomes would a £ spent in education generate if used elsewhere? The results can be summarised to inform different decision makers and to incorporate alternative value judgements.



Further details here: www.oxfordre.com/economics/abstract/doi/10.1093/oxfordre/ehp/ehp001

CHE hosts annual ODI Health Fellows' Training Day

Written by Kath Devlin

Health Fellows accepted onto the Overseas Development Institute's (ODI) Health Fellowship Scheme visited CHE for a one day training event in Health Economics supported by CHE's Thanzi la Onse programme. The Fellows are about to begin their two year postings to Ministries of Health in Thailand, Nigeria, Sierra Leone, and Guinea-Bissau, working alongside local civil servants to address challenges faced by many low- and middle-income countries.

Staff presenting included James Lomas, Pete Smith, Wiktoria Tafesse, Martin Chalkley, Maria Goddard, Paul Revill, and James Love-Koh. Topics included an introduction to health economics, healthcare financing, economics of health behaviour, healthcare markets and contracts, economic evaluation, and equity. A 'round the table' discussion on antimicrobial resistance (AMR) was led by Beth Woods. A particular highlight of the day was the session on 'Life as an ODI Health Fellow', an insightful and valuable discussion led by former and current ODI Health Fellows, including CHE PhD student Finn McGuire. More information here: www.oxfordre.com/economics/abstract/doi/10.1093/oxfordre/ehp/ehp001

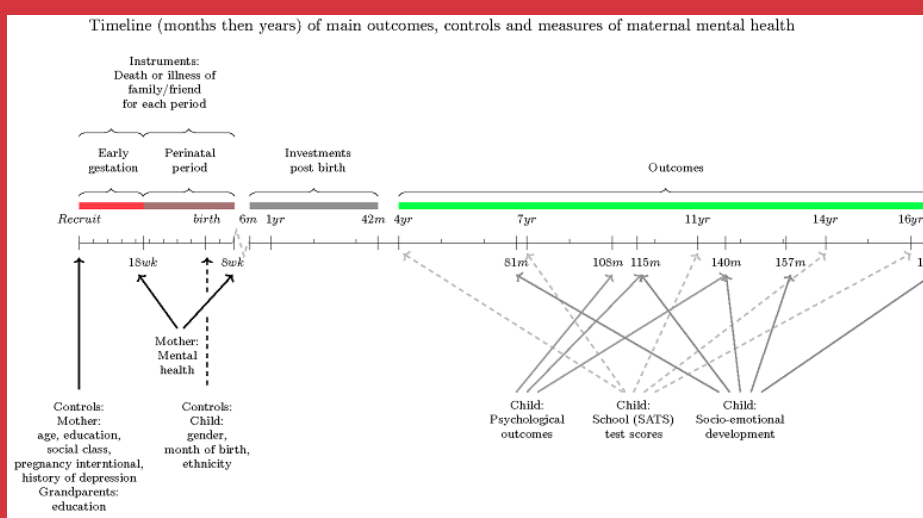


Mental health around pregnancy and child development

Project Team: Nigel Rice (CHE), Stephanie von Hinke, Emma Tominey (Department of Economics and Related Studies, University of York)

It is well established that shocks to mothers' health during pregnancy can have lasting impacts on later-life outcomes of children. The majority of these studies focus on physical health shocks with little direct evidence of the impact of maternal mental health during pregnancy on child outcomes. This research identifies the causal effect of mothers' mental health during early pregnancy and soon after giving birth on a range of child psychological, socio-emotional and cognitive outcomes measured between ages 4-16 years. Findings suggest a negative effect on children's psychological and socio-emotional skills in early childhood, but that these effects fade-out between the ages of 11-13. We find no compelling evidence of an effect on cognitive ability proxied by school test scores. The fade-out of effects appears to be partly explained by compensatory behaviour of parents, as we find that mental health during or soon after pregnancy raises breastfeeding and improves measures of interactions between mother and child. These findings suggest a greater role in the management and care of maternal depression and stress, but also in enabling appropriate behaviours and investments in infants and young children where maternal mental health problems are present.

Link to working paper: www.che.ac.uk/working-papers



Staff news

We recently received the sad news that Diane Dawson passed away earlier this year, leaving us with fond memories of a talented, warm and lively colleague. [Read more](#)



CHE has a team of over 60 economists who are in constant demand at conferences around the world and who regularly advise governments and policy makers both in the UK and abroad. During the months of July to October 2019 CHE staff have visited and presented work in the following countries:

Chile, Portugal, Ireland, Brazil, Australia, Belgium, USA, Iceland, India, Uganda, Switzerland, Egypt, China, Taiwan, UK, France, Germany, Canada. (Photo shows colleagues at iHEA conference in Basel.)



See our website for full details of CHE staff [presentations and visits](#).



CHE hosted an afternoon workshop for the fifth annual China National Health Development Research Centre (CNHDRC) Health Policy Research and Evaluation Training Programme on 20 September 2019.

Please visit our website for more of CHE's [latest news items](#)

New funding

Exploring the variance of EQ-5D-5L index in patients with chronic conditions in England

Hugh Gravelle

Funder: Euroqol
01/05/19 - 30/04/20

The institutional determinants of health system efficiency in Latin America and the Caribbean

Adriana Castelli, Rodrigo Moreno Serra,

Funder: Inter-American Development Bank
01/04/19 - 29/11/19

ARISE

Sumit Mazumdar

Funder: MRC GCRF
13/02/19 - 12/02/24

UK China health and economy partnership

Andrea Manca

Funder: The British Council
25/03/19 - 31/01/21

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Latest CHE research papers

167 The effect of government contracting with faith-based health care providers in Malawi. Wiktorja Tafesse, Gerald Manthala, Martin Chalkley.

168 The causal effect of hospital volume on health gains from hip replacement surgery. Laurie Rachet-Jacquet, Nils Gutacker, Luigi Siciliani.

169 Drivers of health care expenditure: Final report.

Anne Mason, Idaira Rodriguez Santana, María José Aragón, Nigel Rice, Martin Chalkley, Raphael Wittenberg, Jose-Luis Fernandez.

170 Applying the three core concepts of economic evaluation in health to education in the UK. Sebastian Hinde, Simon Walker, Hugues Lortie-Forgues

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