CHE
Centre For Health Economics

Health Economics *News*

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Welcome to the CHE Newsletter

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Follow us on and

The CHE Annual Report for 2017 was recently released.

Congratulations to ***Giancarlo Buitrago Gutierrez,*** Pontificia Universidad Javeriana, Colombia and ***Ankur Pandya,*** Harvard T.H. Chan School of Public Health, USA, who have both been awarded CHE Research Fellowships. Researchers wishing to visit CHE are invited to apply during March/April of each year for a fellowship award intended as a contribution towards living and travel expenses.

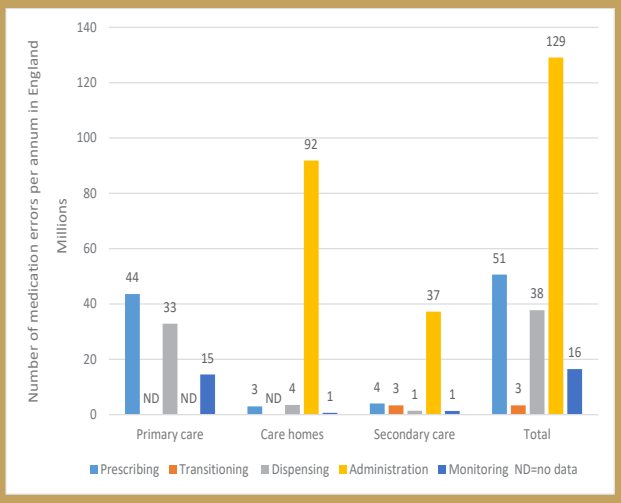
Athena SWAN Bronze Award

Prevalence and economic burden of medication errors in the NHS in England

Project team: Dina Jankovic, Rita Faria, Mark Sculpher (CHE), Rachel Elliott, Elizabeth Camacho (University of Manchester), Fiona Campbell, Marrissa Martyn St James, Eva Kaltenthaler, Ruth Wong (University of Sheffield)

Medication errors refer to any preventable event that may cause or lead to inappropriate medication use or patient harm - examples include incomplete or inaccurate prescribing, errors in dispensing and administering medication and inadequate monitoring of medication use. Medication errors may cause harm to patients, and increase use of health care services. This project, in collaboration with researchers at the University of Sheffield and at the University of Manchester aimed to summarise the evidence on the burden of medication errors.

We conducted two systematic reviews and used the findings to model the number of errors occurring in the NHS in England each year, where and when in the medication use process these errors occur, their costs and health consequences.



We estimated that 237 million medication errors happen each year in the NHS in England. The NHS costs of avoidable harm from medication errors was estimated at £98 million per year, consuming 181,626 bed-days, and causing 712 deaths. The report highlighted high uncertainty around the estimates of the burden of errors due a lack of data linking medication errors and health outcomes.

Our work helped inform the Department of Health and Social Care decision to commission a new system to monitor and prevent medication errors and the development of indicators for safer prescribing. More generally, understanding the prevalence and burden of medication errors can help inform decisions about the design and implementation of patient safety initiatives.

The EEPRU report can be found here: www

Health Economists' Study Group (HESG) Winter 2019

The HESG Winter 2019 Meeting will be hosted by the Centre for Health Economics (CHE), University of York, from 7th - 9th January 2019.

Registration details here www

Paying GP practices to diagnose dementia

Project team: Anne Mason, Dan Liu, Panos Kasteridis, Maria Goddard, Rowena Jacobs (CHE), Raphael Wittenberg (PSSRU), Gerald McGonigal (York Teaching Hospital)

Dementia is a devastating condition that has no known cure. Efforts are therefore concentrated on supporting patients and their families as best as possible. About 10 years ago, policy makers highlighted the problem of 'underdiagnosis': around half of people who had dementia had no formal diagnosis. As well as helping sufferers to plan ahead, an early diagnosis makes it easier to access care and support services and can prevent avoidable health crises.

To tackle underdiagnosis, the government introduced two schemes for primary care. One scheme ran for 3 years and paid GP practices to assess patients who were at higher risk of having dementia. The other scheme ran for 6 months and paid £55 for each extra person added to the GP practice dementia register. This scheme was controversial and was criticised for being 'cash for diagnosis' and 'unethical and dangerous for patients'.

Using advanced statistical methods, we found the combined effect of the schemes was to increase GP dementia registers nationally by around 40,000 cases. This figure would have been about 50,000 if all GP practices had taken part. So these schemes seem to have achieved their aims, but further research is needed on their unintended consequences.
Link to paper here: www

How does fairness factor into choice of treatments in the NHS?

Project team: James Love-Koh, Karl Claxton, Richard Cookson, Susan Griffin

Unequal health outcomes by social and economic factors such as income, occupation and place of residence can be perceived as unfair. The NHS has a duty to reduce such inequalities in outcomes. Our research provides information the NHS needs in order to take this duty into account when deciding which treatments to offer. It found that the improvement in health outcomes provided by expanding NHS services is concentrated in the most deprived groups with the lowest quality and length of life. Spending more money on NHS services can help to reduce health inequalities. Removing funding from existing services, either through reduced NHS budget or reallocation of resource to alternative activities, means losing the health benefits of the reduced services. This loss represents the 'opportunity cost' of NHS expenditure, and it is concentrated in the most deprived groups. However, spending money on new interventions that benefit deprived groups is not guaranteed to reduce inequality. Reallocating funding to new interventions that benefit deprived groups by a lesser degree than existing NHS services will increase inequality.

The results of our research can feed into value assessments of new interventions. Differences in prevalence, access and utilisation between groups determine the degree of benefit derived from new interventions. Our research adds the difference in the opportunity costs, without which the overall impact on inequality could be misjudged. Conducting value assessments to describe the impact of interventions across different groups can help decision makers to pursue fairness. More information on this research can be found here: www

Comparing in-hospital mortality in England and Scotland

Project team: María José Aragón, Martin Chalkley

Many studies of hospital mortality have focused on differences between hospitals after accounting for differences in the patients that they treat. This research takes a different approach and examines the differences between countries after accounting for differences in their populations. It is the first study to consider extensive and detailed data on hospital admissions and discharges in Scotland and England over a 17-year period and shows that whilst in-hospital mortality has declined in both countries, it is falling substantially faster in England.

The results are considered separately for 'elective' hospital admissions, where patients went into hospital for planned care, and 'emergency' hospital admissions where care was unplanned, and indicate that in-hospital mortality was falling faster in England in both cases. Among elective admissions, where the numbers of deaths were small in both countries, in 2014 0.3% of patients died in Scotland compared with 0.1% in England. In the case of emergency admissions 4% of patients died in English hospitals versus 6% in Scottish hospitals.

The data used for the study record information on individual patients and admissions to hospital, so it is possible to account for differences in the reasons why people were admitted to hospital as well as differences in populations such as age, levels of disease and deprivation. So whilst it is not unexpected that there are differences in the numbers of hospital deaths between England and Scotland - they have different populations with different health needs - the fact that rates of mortality in hospitals are falling faster in English hospitals remains unexplained. There may be a benign reason for the difference such as differences in the way data are recorded, but the findings suggest that further investigation is needed. If there are differences in the ways in which patients are treated that are leading to the differential trends, then policy-makers and regulators need to know about these.

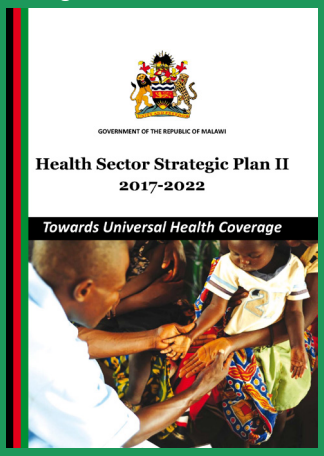
The CHE researchers who conducted the research are now in discussions with representatives of the NHS in Scotland to establish future research on this topic. Read the full BMJ Open article here: www

Supporting the development of a health benefits package in Malawi

Project team: Jessica Ochalek, Karl Claxton, Paul Revill, Mark Sculpher, Alexandra Rollinger

Low- and middle-income countries (LMICs) often use health benefits packages (HBPs) to set out what health technologies will be made available to the public as part of a move toward universal health coverage (UHC). However, with no widely accepted method for their development, HBPs often promise more than can be delivered given the resources available in these countries. To advance UHC goals to make the best use of the resources available for healthcare, an analytic framework is required that exposes the inevitable trade-offs to assist decision makers in the design of HBPs.

CHE researchers collaborated with the Ministry of Health in Malawi to develop such a framework. It identifies the potential value of including and implementing different interventions to guide the design of HBPs. Value is measured using metrics that reflect the scale of the potential net health impact (net disability adjusted life years averted) or the amount of additional healthcare resources that would be required to deliver similar net health impacts with existing interventions (the financial value to the healthcare system). These metrics are founded on an understanding of the health opportunity costs of the choices faced.



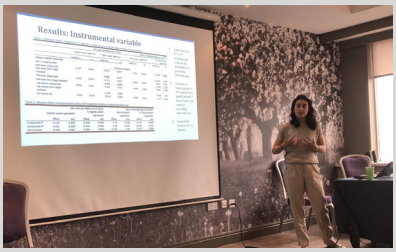
The framework can help answer key questions around, for example: the appropriate scale of the HBP; which interventions represent 'best buys' and should be prioritised; where investments in scaling up interventions and health system strengthening should be made; whether the package should be expanded; costs of the conditionalities of donor funding and how objectives beyond improving population health can be considered. This provides a basis for informing meaningful discussions between governments, donors and other stakeholders around the trade-offs implicit in package design. The framework was successfully applied to inform the HBP in Malawi, and forms a core component of the country's Health Sector Strategic Plan II 2017 - 2022.

BMJ article can be found here: www

Highlights: presentations and news

Congratulations to those staff recently promoted: **Laura Bojke**, **Helen Weatherly**, **Simon Walker** and **Nils Gutacker**.

Between March and June, CHE staff have given a number of presentations and attended research meetings at various national and international events. The summer HESG meeting took place in Bristol 20 - 22 June 2018 and CHE staff who attended included **Alessandro Grosso**, **Rita Faria, Francesco Ramponi**, **Ieva Skarda**, **Nils Gutaker**, **Maria Lúcia Pace** (pictured), **Gowokani Chirwa**, **Adrián Villasenor-Lopez** and **Georgios Nikolaidis**.



Please see our website for more information about CHE presentations and visits.

- Using new linked data to examine quality of primary care for patients with serious mental illness. **Rowena Jacobs** in an interview with the NIHR.
- The ISPOR (International Society for Pharmacoeconomics and Outcomes Research) Annual International Meeting Baltimore USA was held in May 2018. **Claire Rothery** was awarded the ISPOR Distinguished Service Award for excellent leadership of the Task Force on Emerging Good Practices for Value of Information analysis. The 2018 ISPOR 'Value in Health Paper of the Year Award' was won by **Richard Cookson**, lead author of an article co-authored by colleagues from CHE (**Andrew Mirelman**, **Susan Griffin**, **Miqdad Asaria** and **Tony Culyer**), Leeds (Bryony Dawkins), Bergen (Ole Norheim) and Harvard (Stephane Verguet).
- The impact of the sugar tax in Chile: a bittersweet success? A PLOS Medicine journal article. Authored by Ryota Nakamura, **Andrew Mirelman**, Cristobal Cuadrado, Nicolas Silva-Illanes, Jocelyn Dunstan and **Marc Suhrcke**.

New funding

Tees, Esk and Wear Valleys NHS Foundation Trust. Identifying & linking individual patient data to assess alternative service designs for pharmacy services
Gerry Richardson, **Laura Bojke**, **Seb Hinde**
Funder: NIHR RCF
29/01/2018 - 31/03/2019

A cluster randomised controlled trial to investigate the effectiveness and cost-effectiveness of a Structured Health Intervention for Truckers (SHIFT)
Gerry Richardson
Funder: NETSCC
01/06/2017 - 31/05/2020

NHS 70

- The NIHR announced 13 new NIHR Policy Research Units which will provide both a long-term resource for policy research and a rapid-response service to provide evidence for emerging policy needs. CHE is leading two of these.
- **Maria Goddard** wrote articles for The Conversation entitled 'Is the 3.4% spending increase enough to 'save' the NHS?' and 'The NHS explained in eight charts'.
- The NHS at 70: Celebrating York's role in the rise of evidence-based healthcare. In an interview with **Maria Goddard**, Karen Bloor and Karl Atkin, the role of health economics - past and present - in supporting evidence-based healthcare, is explored.
- **Maria Goddard** gave some short interviews with six local radio stations for the BBC's General News Service on the 4th April 2018, as part of a BBC radio series about the NHS to celebrate its 70th anniversary. The episode in the series looked at 'What would life be like without the NHS?'

Please see our website for these and other CHE News articles.

CHE Publications March - June 2018

Arundel C, Fairhurst C, Corbacho Martin M, Buckley H, et al, **Saramago P**, **Soares M**, et al. Pilot feasibility randomized clinical trial of negative-pressure wound therapy versus usual care in patients with surgical wounds healing by secondary intention. *BJS Open* 2018;2(3):99-111.

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Barbieri M, **Richardson G**, Paisley S. The cost-effectiveness of follow-up strategies after cancer treatment: a systematic literature review. *British Medical Bulletin* 2018;126(1):85-100.

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Ciani O, Epstein D, **Rothery C**, Taylor RS, **Sculpher M**. Decision uncertainty and value of further research: a case-study in fenestrated endovascular aneurysm repair for complex abdominal aortic aneurysms. *Cost Effectiveness and Resource Allocation* 2018;16:15.

Claxton K, **Lomas J**, Martin S. The impact of NHS expenditure on health outcomes in England: Alternative approaches to identification in all-cause and disease specific models of mortality. *Health Economics* 2018;27(6):1017-1023.

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Drummond M, Tarricone R, Torbica A. Economic evaluation of medical devices. *Oxford Research Encyclopedia of Economics and Finance.* March 2018;doi: 10.1093/acrefore/9780190625979.013.105.

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Garrison L, Neumann P, Willke R, Basu A, Danzon P, Doshi J, **Drummond M**, et al. A health economics approach to US value assessment frameworks - Summary and recommendations of the ISPOR special task force report [7]. *Value in Health* 2018;21(2):161-165.

Gutacker N, Bloor KE, Bojke C, Walshe K. Should interventions to reduce variation in care quality target doctors or hospitals? *Health Policy* 2018;122(6):660-666.

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Marsh KD, **Sculpher M**, Caro J, Tervonen T. The use of MCDA in HTA: great potential, but more effort needed. *Value in Health* 2018;21(4):394-97.

Mason A, **Liu D**, **Kasteridis P**, **Goddard M, Jacobs R**, et al. Investigating the impact of primary care payments on underdiagnosis in dementia: A difference-in-differences analysis. *International Journal of Geriatric Psychiatry* 2018;33(8):1090-1097.

Nakamura R, **Mirelman A**, Cuadrado C, Silva N, Dunstan J, **Suhrcke M**. Evaluating the 2014 sugar-sweetened beverage tax in Chile: An observational study in urban areas. *PLoS Medicine* 2018;15(7):e1002596.

Niessen L, Mohan D, Akuoku J, **Mirelman A**, Ahmed S, et al. Tackling socioeconomic inequalities and non-communicable diseases in low-income and middle-income countries under the Sustainable Development agenda. *The Lancet* 2018;391(10134):3026-2046.

Ochalek J, **Revill P**, Manthalu G, McGuire F, Nkhoma D, **Rollinger A**, **Sculpher M**, **Claxton K**. Supporting the development of a health benefits package in Malawi. *BMJ Global Health* 2018;3(2):e000607.

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Sassi F, Belloni A, **Mirelman A**, **Suhrcke M**, Thomas A, et al. Equity impacts of price policies to promote healthy behaviours. *The Lancet* 2018;391(10134):2059-2070.

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Yang F, Devlin N, Luo N. Impact of mapped EQ-5D utilities on cost effectiveness analysis: in the case of dialysis treatments. *European Journal of Health Economics* 2018;doi:10.1007/s10198-018-0987-x.

Yang F, Gannon B, Weightman A. Public's willingness to pay towards a medical device for detecting foot ulceration in people with diabetes. *Applied Health Economics and Health Policy* 2018;16(4):559-567.

These and other CHE publications here: www

Latest CHE research papers

152 Productivity of the English National Health Service: 2015/16 update. Adriana Castelli, Martin Chalkley and Idaira Rodriguez Santana.

153 Accounting for the quality of NHS output. Chris Bojke, Adriana Castelli, Katja Grašič, Anne Mason and Andrew Street.

154 Cost, context and decisions in Health Economics and cost-effectiveness analysis. Anthony J Culyer.

155 Setting research priorities in Global Health: Appraising the value of evidence generation activities to support decision-making in health care. Beth Woods, Claire Rothery, Paul Revill, Timothy Hallett, Andrew Phillips, Karl Claxton.

Free to download here: www

Policy & Research Briefing

Are angioplasty waiting time inequalities growing again? Giuseppe Moscelli, Luigi Siciliani, Nils Gutacker and Richard Cookson.

Free to download here: www

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