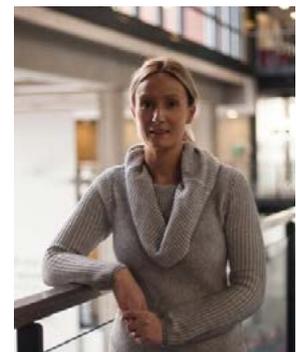


## Newsletter for Summer 2019

### Cognitive interview study of medical licensing knowledge test published in BMJ Open

A team from the University of Lincoln and the Royal College of General Practitioners, with lead author Dr Julie Pattinson and corresponding author, Prof Niro Siriwardena, have published the first cognitive interview study, exploring reasons for differences in performance between UK trained doctors and doctors trained overseas in a medical licensing exam.

The study, 'Exploring reasons for differences in performance between UK and international medical graduates in the Membership of the Royal College of General Practitioners Applied Knowledge Test: a cognitive interview study', used 'think aloud' interviews, which were conducted by Dr Pattinson to elicit the thought processes of doctors during their general practice training while trying to answer knowledge test questions from the licensing assessment. The interviews were also used to compare doctors who had undertaken their undergraduate medical training in the UK with international medical graduates who had trained overseas to understand why there were differences in performance between the two groups.



The interviews identified three areas which explained difficulties for all groups and a fourth, cultural barriers, which were a particular problem for overseas trained doctors. Interviewees reported difficulties recalling information and responding to questions just using theoretical learning compared with actual clinical experience whereas rote learning, which seemed more commonly used abroad helped some IMGs recall rare disease patterns. Interviewees reported greater difficulty answering questions about topics not recently studied, less frequently encountered or perceived as less relevant. Some doctors were over optimistic about their performance on particularly questions despite getting the answer wrong. The cultural barriers for international medical graduates included differences in undergraduate experience, lack of familiarity with UK guidelines and language barriers.

The study findings suggested that most difficulties encountered during the knowledge test could be addressed through training, with additional help for international medical graduates to address differences in educational experience, exam content or language difficulties.

Open access

Research

### BMJ Open Exploring reasons for differences in performance between UK and international medical graduates in the Membership of the Royal College of General Practitioners Applied Knowledge Test: a cognitive interview study

Julie Pattinson,<sup>1</sup> Carol Blow,<sup>2</sup> Bijoy Sinha,<sup>3</sup> Aloysius Siriwardena<sup>4</sup>

## 'Saving bones without risking brain' published in Osteoporosis International



A team from CaHRU, the School of Pharmacy and the School of Social and Political Sciences at the University of Lincoln in collaboration with the Universities of Surrey and Oxford, have published an observational study investigating potential risks of stroke when using bisphosphonate drugs, widely used for the treatment and prevention of osteoporosis, and found them not to be associated with increased risk of stroke.

The study led by Dr Zahid Asghar, senior lecturer in CaHRU and an expert in mathematical modelling, titled '[Saving bones without risking brain—bisphosphonates and risk of stroke: matched case-control study](#)' was published in the journal *Osteoporosis International*. Co-authors included Ana Godoy Caballero, Steve McKay, Paul Grassby and Niro Siriwardena from the University of Lincoln, Sameera Pathirannehelage and John Williams from University of Surrey and Simon de Lusignan who has moved to Oxford University. Previous studies had shown conflicting evidence on the link between bisphosphonates and stroke, so the team investigated the association between

bisphosphonate treatment and the risk of stroke using a large routine clinical dataset housed at the Royal College of General Practitioners Research and Surveillance Centre.

The study used a matched nested case-control study design looking at adults who had a stroke and comparing those who had or had not taken different bisphosphonate drugs previously, while adjusting for other potential causes of stroke including disease risk groups, cardiovascular risk factors, other drugs, smoking status, alcohol consumption, ethnicity, fracture and socioeconomic status. The analysis showed that bisphosphonates were not associated with stroke and will be reassuring for people with osteoporosis or fracture who are recommended to take these drugs long-term.

## CaHRU/LIH Improvement Science and Research Methods Seminar June 2019: The challenge of engaging organisations in survey research

Dr Coral Sirdifield gave the CaHRU/LIH Improvement Science and Research Methods seminar on engaging organisations in survey research. Here, she used an example of an NIHR RfPB funded study that she has been leading as an example to illustrate some of the methodological challenges involved in attempting to engage multiple kinds of organisation in survey research, and discussed some of the lessons learnt during this study.

The project used as an example was focussed on mapping healthcare provision for people on probation across England. Those working on the project aimed to survey all Clinical Commissioning groups, Mental Health Trusts, Public Health Departments, National Probation Service local delivery units and probation approved premises, and Community Rehabilitation Companies in England.

In the seminar, Coral discussed advice and key themes from the research literature in relation to improving response rates, and how the team considered these themes and implemented these recommendations during different phases of the project. This included discussion around the role of gatekeepers, the recruitment process; resources, organisational culture and responsibilities; organisational change, and incentives. During the project, the team had used Freedom of Information requests as a final step in their recruitment process, and the pros and cons of this were discussed.

The team have recently published an article related to this topic: Sirdifield et al., (2019) Researching healthcare availability for probation clients: an illustration of methodological challenges and lessons in surveying organisations, *British Journal of Community Justice*, 00(0): 1-18.

This article presents independent research funded by the National Institute for Health Research (NIHR) Research for Patient Benefit programme (Grant Reference Number PB-PG-0815-20012). The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.



## Dr Elise Rowan joins CaHRU as Clinical Database Manager

Elise has recently joined CaHRU as Clinical Database Manager. Elise aims to use her skills and past experience with data management and clinical research project/surgical trial management to support various on-going and new projects at CaHRU.

Elise gained her PhD at Cambridge University Orthopaedic Research Unit in 1996 and subsequently moved to the Newcastle area where she worked for 18 years mainly as a post-doctoral researcher within the Medical School at Newcastle University. Elise's research experience includes managing relational databases for longitudinal clinical and neuropsychological studies of patients with dementia, stroke and Parkinson's disease. Elise also gained some managerial and administrative experience working within the NHS as manager of an NIHR funded research network for patients with dementia and neurodegenerative diseases and acting as the Newcastle local network administrator for the Alzheimer's Research Trust (now known as Alzheimer's Research UK).



From 2008-2013 Elise worked in the Newcastle Neurosurgical Trials Unit managing two international surgical trials for patients with spontaneous intracerebral haemorrhage and intracerebral haemorrhage caused by traumatic head injury (STICH II and STITCH(Trauma)). These projects achieved a high follow-up rate and involved working collaboratively with hospitals and neurosurgeons all over the world. Following this, Elise worked briefly as a senior clinical trials manager (specialising mainly in the set-up of new surgical trials) at Newcastle University Clinical Trials Unit before relocating to Lincolnshire in 2015 and joining the Lincoln Education Assistance with Dogs study at University of Lincoln Department of Psychology.

As a result of the above roles, Elise has a very broad research experience which has enabled her to contribute to a large number of publications particularly in the areas of stroke, dementia and cerebral haemorrhage. Elise's on-going academic interests include research data management, research ethics, clinical/surgical trial protocol development and research project management.

## Nadya Essam awarded PhD for research on effect of paramedic use of National Early Warning Scores



Nadya Essam, PhD student at CaHRU, was awarded her PhD in September at the College of Social Science graduation which took place at the magnificent Lincoln Cathedral. She successfully defended her thesis titled: 'To convey, or not convey ...? The effect and usefulness of the National Early Warning Score to support paramedics' decisions to convey patients to hospital or treat closer to home', supervised by Professors Niro Siriwardena and Steve McKay. The study involved mixed methods to investigate the introduction of the National Early Warning Score (NEWS) to help paramedics determine which patients could be safely treated at scene or via an alternative care pathway, rather than being transported to hospital.

Nadya used an interrupted time series design to analyse ambulance data before and after NEWS was introduced, examining numbers and proportions of patients not conveyed to the emergency department and numbers and proportions treated and left at scene who recontacted the ambulance service within 24-hours. She also used semi-structured interviews and observations of staff to explore their perceptions of using NEWS. There were no significant differences in the numbers of emergency calls attended to by ambulance, although numbers of life-threatening calls increased significantly, while the numbers and proportion of patients being treated closer to home remained constant.

The effectiveness and usefulness of the NEWS to support paramedics' decision-making to treat patients closer to home was compromised by a failure to use NEWS as intended and lack of access to alternative care pathways. The findings will be of value to service providers seeking to achieve NHS England's ambition to increase the uptake of the NEWS to 100%, and those responsible for redesigning and commissioning integrated care services.

## CaHRU/LIH Improvement Science and Research Methods Seminar July 2019: Assessing the applicability and transferability of interventions to alternative settings

The July research seminar from the Community and Health Research Unit and the Lincoln Institute for Health was given by Laura Simmons, PhD student at CaHRU and the LIH. The seminar took place on Tuesday 16th July 2019 at the Sarah Swift Building.



Laura spoke about the process of assessing the applicability and transferability of interventions to alternative settings, where applicability is “the extent to which the intervention process could be implemented in another setting” and transferability, “the extent to which the measured effectiveness of an applicability intervention could be achieved in another setting”. This was shown to be important because systematic reviews are useful to collate and evaluate evidence of effective interventions but researchers need to assess how these interventions can be applied to different settings.

Laura presented the framework from Wang, Moss and Hillier (2005) to assess applicability, which takes into account the local political, educational and cultural environment, acceptability to the public, organisational motivation, capability and barriers, and the availability of resources and training. The assessment of transferability from the same authors takes into account the following: the baseline prevalence of the health problem, its importance in the local setting and the difference in prevalence between the study setting and the local setting; the comparability of characteristics in the target population between the study setting and the local setting; the effect of characteristics of the target population, such as ethnicity, socioeconomic status, educational level, on the intervention; and finally the capacity to implement the intervention in new compared to the study setting with regards to political environment, social acceptability, resources, organizational structure and the skills of the local providers.

Laura drew on her experience of using this method in her work on interventions to reduce sickness absence amongst healthcare workers, whilst reflecting on the advantages and disadvantages using the method in practice.

### Publications

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