

## Newsletter for Winter 2018/19

### Greg Whitley gives CaHRU/LIH seminar on Systematic Mixed Studies Reviews

The latest CaHRU and LIH Improvement Science and Research Methods seminar was given on February 19th 2018 by Gregory Whitley, a PhD student working in CaHRU. Greg's talk, entitled 'Systematic Mixed Studies Reviews', focused on the science behind reviewing and synthesizing quantitative, qualitative and mixed methods papers together. Greg started his talk by describing what constitutes a systematic mixed studies review and the three main types of such reviews: segregated, integrated and contingent/sequential.



Greg also discussed some of the main challenges he encountered while doing his systematic mixed studies review of 'predictors, barriers and facilitators to effective management of acute pain in children by ambulance services' focusing particularly on the risk of bias tools he employed, as well as the synthesis and meta-integration of the extracted data. Finally, Greg finished his seminar by discussing the GRADE and CERQual approaches he used to assess risk of bias and grade the evidence of his systematic review.

The seminar was very well attended and received by staff and students from CaHRU, the LIH, other university departments and local health services and provided an excellent introduction to conducting systematic mixed studies reviews. We look forward to the next seminar given by Viet-Hai Phung on 'Research involving seldom heard groups' on 27 March, 11am at MB2601 Minerva building.

### Dr Joseph Akanuwe presents at Cancer Research UK (CRUK) Early Diagnosis Conference



Dr Joseph Akanuwe attended and presented a poster on cancer risk assessment tools at the 5th Biennial Early Diagnosis Research Conference from 11th to 13th February 2019 at the Hilton Birmingham Metropole. The theme for the conference was, '10 years On: accelerating early diagnosis into practice'.

In both the opening and closing remarks, Sara Hiom of CRUK stressed that achieving early diagnosis by tackling late diagnosis of cancer remains important, and that CRUK is focused on the goal of achieving 75% of all cancers being detected at an early stage (stage 1 or 2) in the UK by 2028. To achieve this goal, CRUK will encourage and support research on reducing late stage diagnosis, reducing variations in cancer detection and coordinating efforts around early diagnosis and treatment of cancer.

Key note speakers at the conference included Sir Mike Richards CME who spoke on, 'the importance of screening and early diagnosis in improving cancer survival in England', and Prof Willie Hamilton from the University Exeter who spoke on, 'improving earlier diagnosis: reflections and projections from primary care'.

The three day conference closed with the award of prizes to outstanding early career and established researchers in the area of early diagnosis of cancer. Joseph is grateful for the support offered by Prof Niro Siriwardena and CaHRU, which made it possible for him to attend this conference.

By Dr Joseph Akanuwe

## Major ambulance trial of GTN in hyperacute stroke (RIGHT2) published in The Lancet

A major trial of transdermal glyceryl trinitrate (GTN) in early stroke was published this month in the major medical journal, The Lancet. The trial, Prehospital transdermal glyceryl trinitrate in patients with ultra-acute presumed stroke (RIGHT-2): an ambulance-based, randomised, sham-controlled, blinded, phase 3 trial' sought to find out whether GTN, a nitric acid donor, improved outcomes when administered very early after stroke onset.

The study, led by Professor Philip Bath of Nottingham University, and including Prof Niro Siriwardena from CaHRU and a team from East Midlands Ambulance Service NHS Trust (EMAS) as one of the eight participating ambulance services, was funded by the British Heart Foundation. It followed a successful feasibility study conducted at EMAS which was previously published in the journal, Stroke.

This new trial involved 516 paramedics who, between October 2015 and May 2018, recruited 1149 participants (n=568 in the GTN group, n=581 in the sham group) to the study. There was no difference in primary (modified Rankin Scale) or secondary (death, serious adverse events) outcomes in participants with a final diagnosis of stroke or transient ischaemic attack comparing the GTN group versus the sham group.



The investigators found that early administration of GTN in the ambulance within 4 hours of stroke onset did not change outcomes in people with suspected stroke. The study was a major advance in stroke trials showing that it was feasible for UK paramedics to recruit, consent, randomise and treat patients with stroke in the prehospital setting.

By Prof A N Siriwardena

## Dr Pradeep Ratnasekare international visiting fellow says farewell to CaHRU



Dr Pradeep Ratnasekare who joined CaHRU this January 2018 as our third international visiting fellow from the University of Colombo's Postgraduate Institute of Medicine bade farewell to colleagues at CaHRU with a presentation about his experience at the Universities of Lincoln and Aberdeen.

Pradeep used his experience as a postdoctoral fellow in medical administration and health management during his attachment at CaHRU to explore the prehospital care system in the UK, to study the UK primary health care system, to learn about systems for Health Technology Assessment (HTA) and to understand hospital design and planning.

Despite the early challenges of working in a new country and the inclement weather last winter he enjoyed his attachment in the UK to provide opportunities to apply learning to the health system reforms in Sri Lanka which seek to restructure the primary healthcare delivery model, the developments in prehospital care and the new emergency ambulance system, risk management in hospitals, and development of guidelines for health buildings. We wish Pradeep well in his future endeavours.

## CaHRU/LIH seminar: Arwel Jones & Hayley Robinson on The Behaviour Change Wheel



In the Research Methods and Implementation Science seminar from CaHRU and the Lincoln Institute for Health (LIH) which took place on 22 January 2019, Dr Arwel Jones and Hayley Robinson from the LIH presented on The Behaviour Change Wheel. In their talk they described how the Behaviour Change Wheel is used in the context of health research and explained how they had applied this in studies they were conducting.

The starting premise of the Behaviour Change Wheel is that there are three core components that determine behaviour: capability, opportunity, and motivation. This core circle is surrounded by a ring that represents the types of intervention that could target these three determinants with a view to eliciting behavioural change. This ring is then surrounded by an outer ring representing the wider context and policies that can enable an intervention.

The presenters related the concept of the Behaviour Change Wheel to reducing the incidence of Coronary Obstructive Pulmonary Disease (COPD). COPD is a respiratory condition associated with reduced lung capacity, restricted ability to exercise and increased risk of hospitalisation. This is improved by pulmonary rehabilitation but patients often do not complete this treatment. To address this, an intervention was designed including physical exercise, education and behaviour change intended to improve levels of exercise and thereby lung function in COPD patients, thus helping to maintain this new behaviour.

To do so, using the Behaviour Change Wheel involved increasing their capability, opportunity and motivation for undertaking physical exercise. Having identified these components, the presenters deliberated over the types of interventions that could elicit the desired behavioural change. These ranged from the positive, like education, encouragement and persuasion, through to the more punitive, like coercion and restriction. The seminar was clear in outlining the concept of the Behaviour Change Wheel. It also described practical steps through different types of interventions and policies to achieve the desired behavioural change.

By Viet-Hai Phung

## CaHRU engaging with patients and public in research

The Community and Health Research Unit continue to engage with patients and the public in research studies which remains important and essential to our work. This enables our research to focus on what is important for patients, and we include the public in development, design, conduct and dissemination of our research studies.

Members of the team have made several visits to patient groups. For example Prof Graham Law and Niro Siriwardena each went and spoke to Oakham, Stamford and Uppingham Diabetes Self-help Group chaired by Keith Spurr; Graham spoke on the link between diabetes and sleep and Niro discussed our work on the development of ambulance pathways for people with hypoglycaemia and research on diabetes emergencies in care homes. Recently, Niro also spoke at the Lincoln Branch of the British Federation of Women Graduates on 24th October with a talk entitled "Sleeping on the job" which described the problem of sleep, how this is managed in general practice and what we are doing to try to improve this.



Underpinning this aspect of our work is the Healthier Ageing Patient and Public Involvement (HAPPI) group, pictured above. This is a group of members of the public which was established in 2014 and is chaired by Amanda Brewster. They have been working with us on several projects over the years, making an important contribution to our work. Early in January 2019, Guido Giarelli an associate professor of Sociology at the University 'Magna Græcia' of Catanzaro (Italy), and director of a Masters in "Integrated Medicine" visited the university and CaHRU to further develop his interest in patient and public involvement in health research. This has resulted in a proposal for an international PhD involving both and several other European universities.

## Publications

Bath PM, Scutt P, Anderson CS, Ankolekar A, Appleton JP, Berge E, Cala L, Dixon M, England TJ, Godolphin PJ, Havard D, Haywood L, Hepburn T, Krishnan K, Mair G, Montgomery AA, Muir K, Phillips SJ, Pocock S, Potter J, Price CI, Randall M, Robinson TG, Roffe C, Rothwell PM, Sandset EC, Sanossian N, Saver JL, Shone A, Siriwardena AN, Wardlaw JM, Woodhouse LJ, Venables G, Sprigg N et al (2019). Prehospital transdermal glyceryl trinitrate in patients with ultra-acute presumed stroke (RIGHT-2): an ambulance-based, randomised, sham-controlled, blinded, phase 3 trial. *The Lancet* (online first).

Coster J, O’Cathain A, Jacques R, Crum A, Siriwardena AN, Turner J. outcomes for patients who contact the emergency ambulance service and are not transported to the emergency department: a data linkage study. *Prehospital Emergency Care* 2019 (online first).

Espie CA, Emsley R, Kyle SD, Gordon C, Drake CL, Siriwardena AN, Cape J, Ong JC, Sheaves B, Foster R, Freeman D, Costa-Font J, Marsden A, Luik AI (2019). Effect of digital cognitive behavioral therapy for insomnia on health, psychological well-being, and sleep-related quality of life: a randomized clinical trial. *JAMA Psychiatry* 76:21-30.

Siriwardena AN, Asghar Z, Lord B, Pocock, H, Phung VH, Foster T, Williams J, Snooks (2019). Patient and clinician factors associated with pain treatment and outcomes: cross sectional study. *American Journal of Emergency Medicine* 37 (2): 266-271.

Luik AI, Machado F, Siriwardena AN, Espie CA (2019). Screening for insomnia disorder in primary care using a two-item short form of the Sleep Condition Indicator (SCI-02). *British Journal of General Practice* 69: 79.

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Trials, 20:129, February 2019 (DOI: <https://doi.org/10.1186/s13063-019-3228-4>)

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## **Funding**

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