Awarded the Queen’s Anniversary Prize for sustained excellence in health services research

We are delighted to announce that together with the Health Economics Research Unit, we have been awarded the Queen’s Anniversary Prize for our sustained excellence in health services research over the last 40 years. It is the UK’s most prestigious form of national recognition open to a UK academic or vocational institution.

We received the award for pioneering the combination of clinical and economic research to assess which medical treatments are effective for use in the NHS and worldwide. Our researchers have conducted more than 1000 studies, involving 46,000 participants from 1,500 places worldwide. The work has changed clinical practice, policy, legalisation and academic methods; directly impacting on the lives of millions of people around the world.

Over the last 40 years we have meticulously and rigorously assessed whether interventions and treatments used, or proposed for use, in health services are effective and cost-effective; and identified how services should best be organised to ensure effective and efficient delivery of these interventions – in particular on the evaluation of non-drug technologies (for example, surgical interventions and screening tests), health technology assessments and health economics. This painstaking endeavour has produced genuine depth of innovation with tangible societal benefits.

The award is very much a case of standing on the shoulders of giants for the last few decades. From our first director, Ian Russell, and then Adrian Grant and Marion Campbell, the Unit has been guided by visionary leaders. But they have done only that, guide. The real accomplishments are due to the day to day production of exemplary work, the fun, the tears, the collegiate culture and most importantly the continued drive to undertake health research that makes a real difference to people.

So I thank all past and present members of the Unit; our sister unit HERU; our external collaborators, supporters and cheerleaders; and the University and Chief Scientist Office for supporting our endeavours.

Onwards and upwards.
Craig Ramsay
Unit Director
Behavioural approaches to optimise antibiotic stewardship in hospitals

Led by Craig Ramsay, world experts in antibiotic stewardship, implementation science and behaviour change interventions from the UK, Canada, Norway and Germany met in Aberdeen for their second 2-day Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) working group meeting in October 2017. The aim of this working group was to apply a behavioural approach to explore how antibiotic stewardship in hospitals can be optimised. Antibiotic stewardship are coordinated interventions designed to improve the use of antibiotics through selection of the best drug regimen including dosing, duration of therapy and route of administration. There is robust evidence to show that a variety of behavioural interventions are effective in reducing unnecessary antibiotic treatment safely, without increase in mortality. However, countries worldwide are not using all of this known information in their stewardship programmes. The JPIAMR working group meeting included a structured consensus process to set the transnational research priorities for optimising the implementation of stewardship programmes in hospitals. The research priorities identified included a need to conduct robust evaluations of stewardship programmes and the need to establish:

- The role of patients in antibiotic stewardship in hospitals
- The barriers and facilitators to implementing antibiotic stewardship programmes and good clinical practice
- The actors and actions required by clinical teams and stewardship programmes
- The activities in current stewardship programmes required to form a control group
- The role and impact of government and policy context
- Evidence base for effectiveness and costs of appropriate programmes
- A defined balanced set of outcomes and measures to evaluate the effects of interventions
- How to define and design stewardship programmes
- A synthesis of available evidence to support planning for future research and planning for stewardship programmes

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REFLECT Trial: A Randomised controlled trial to evaluate the effectiveness and cost benefit of prescribing high dose fluoride toothpaste in preventing and treating dental caries in high-risk older adults.

Dental caries, or tooth decay, is preventable yet it is the most common disease worldwide. Standard fluoride toothpaste, available to buy on the high street, contains around 1400 parts per million (ppm) of fluoride. High dose fluoride toothpaste, containing 5000ppm fluoride, is available by prescription from the dentist and provided to patients judged to be at high risk of decay. In 2016 prescriptions of high dose fluoride toothpaste cost the NHS over £20 million and these costs are increasing rapidly.

The REFLECT trial has been commissioned by the NIHR HTA programme to compare prescription of high dose fluoride toothpaste, used as advised by the participant’s dentist, plus usual care, with usual care only.

The study started in October 2017 and aims to recruit approximately 1200 participants aged 50 years and over, who have a high risk of caries, from NHS dental practices in Northern Ireland, Scotland and England. The primary clinical outcome is the number and proportion of individuals requiring restoration or extraction or endodontic treatment due to caries evaluated at 36 months.

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Achieving Self-directed Integrated Cancer Aftercare (ASICA) in melanoma

A randomised patient focused trial of delivering the ASICA intervention as a means to earlier detection of recurrent and second primary melanoma. ASICA is a digital intervention to increase total-skin-self-examination by people treated for melanoma, and was successfully piloted in 19 patients.

This Cancer Research UK project aims to evaluate ASICA in people treated for a first stage 0-2C primary cutaneous melanoma within the preceding 24 months against treatment as usual. The primary outcome is the impact of receiving ASICA on cancer worry (Cancer Worry Scale); anxiety and depression (HADS) and quality of life (EuroQol). These outcomes will be collected by questionnaire at baseline, one month, six months and one year, but this project also will inform the design and cost of a definitive randomised trial.

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Trial Forge and Studies Within A Trial (SWATs)

Randomised trials are a central component of evidence-informed healthcare but the evidence available to trialists to support decisions on design, conduct and reporting of randomised trials is sparse. Trial Forge (https://www.trialforge.org) is an initiative led from Aberdeen by Shaun Treweek that aims to increase the evidence base for trial decision making and in doing so, to improve trial efficiency.

Studies Within A Trial (SWATs) evaluate trial process alternatives (e.g. different retention strategies). Trial Forge has been promoting SWATs because they are a good way to fill evidence gaps and they are generally very cheap compared to the cost of the host trial.

The PRIoRiTY James Lind Alliance priority setting partnership for trial recruitment (https://www.hrbb-trmn.ie/priority-prioritising-recruitment-in-randomised-trials/), led by Declan Devane in Galway, Ireland and involving Trial Forge has finished its work. This means there is a Top 10 list of trial recruitment priorities that will be published in early 2018. Secondly, the Cochrane recruitment review (http://onlinelibrary.wiley.com/doi/10.1002/14651858.MR000013.pub5/full), which is led from Aberdeen, has been updated and will also be published in early 2018. This review has also introduced some innovations that we hope will influence Cochrane reviews generally, particularly how results are presented and how the ‘Implications for research’ section is written. A Trial Forge guidance document developed with wide stakeholder consultation including funders, trialists, trial managers, PPI partners, clinicians, research ethics and others provides a brief definition of SWATs, an explanation of why they are important and some practical ‘top tips’ that come from existing experience.

From January 2018 the National Institute for Health Research Health Technology Assessment (NIHR HTA) program will be explicitly encouraging applicants to build SWATs into their trials and will offer £10,000 to cover this. Moreover, NIHR wants the barrier to doing this to be low; consequently, it will not require a great deal of extra effort (a paragraph of text perhaps) to get funding to build a SWAT into the trial. The Cochrane review and PRIoRiTY both give suggestions for priority SWATs so even choosing which SWAT to evaluate is not so hard. NIHR will encourage applicants to link up with Trial Forge too, especially with regard to making sure the evidence is collated and disseminated. If SWATs in the HTA program is successful, NIHR would aim to extend this to all its funding programs.

Effects of weight loss interventions for adults who are obese on mortality, cardiovascular disease and cancer: a systematic review and meta-analysis

Obese adults have an increased risk of early death, heart disease, some cancers, type 2 diabetes, and many other diseases. Previous research has shown that weight loss programmes can help with obesity and the prevention of type 2 diabetes, however, there is currently limited evidence that dieting can prevent other serious harm for adults with obesity.

Led by Chenhan Ma and Alison Avenell, data from randomised controlled trials (RCTs) were reviewed to assess the effects of weight loss programmes on deaths from all causes as well as from heart disease and cancer.

The study published in the BMJ involved 54 trials with over 30,000 adults dating from 1966 to 2016 with a minimum follow-up time of one year. Although not always adequately described, all but one of the trials included weight loss diets with sufficient information to establish that a reduction in fat intake was prescribed. High quality evidence from 34 trials showed that weight reducing diets decrease all cause early death for adults with obesity – an 18% relative reduction in early deaths corresponding to six fewer deaths per 1000 participants. However, there was much less evidence for the effect of weight reducing diets on deaths from heart problems and cancer.

Chenhan Ma was picked as one of two students from the University of Aberdeen to present his project at Posters in Parliament in Westminster.

Public Engagement

The public engagement group created in 2016 showcase our work on randomised controlled trials and evidence synthesis to the local community.

For International Clinical Trials Day 2017, HSRU contributed to celebrations by featuring photos and quotes by staff to Twitter about why clinical trials and their work on them are important, videos of staff ‘talking trials’ and podcasts of staff representing James Lind in a public engagement activity.

At the University’s May Festival, we ran our famous explorapolo mock trial and randomised participants to either getting a pink or blue polo showcasing the process of randomisation. James Lind did an appearance too when we replicated the trial in Aberdeen’s city centre for Explorathon 2017.

We also developed our first ever treasure hunt! Our team members became Sherlock Holmes and helped children put together different newspaper evidence. The main goal was to teach participants about evidence synthesis in a fun way – the different steps of the treasure hunt mapped onto the stages of the evidence synthesis process – and to develop critical thinking. This was Public engagement group members took the treasure hunt to TechFest (the North-East of Scotland’s annual festival of Science, Technology, Engineering and Mathematics (STEM)) and more; Kitty Brewster primary school as part of the first Maths Scotland Week.
Almost twenty HSRU and CHaRT researchers attended the joint International Clinical Trials Methodology conference/Clinical Trials Annual meeting in Liverpool. We showcased our work with four outstanding individual oral presentations as well as sixteen poster presentations.

Craig Ramsay attended the Audit & Feedback Scientific Update and Workshop in Calgary in October. The event brought together experts from across Canada and the world to share their experiences and knowledge on using performance feedback to improve quality of care.

**Santander Travelling Fellowship success**

Jemma Hudson and Beatriz Goulao received a Santander travelling fellowship. Jemma visited Pontificia Universidad Catolica de Chile to work on Cochrane Effective Practice and Organisation of Care. Beatriz visited the University of Munster to discuss methodological challenges in dental research.

**Recent international visitors to the Unit:**

Professor Declan Devane from the National University of Ireland, Galway, Professor of Clinical Ethics Wendy Rogers from Macquarie University, Australia.

**Recent publications**


**On 7 September 2017, the Unit held a seminar in Edinburgh entitled: Why Do We Need Evidence?**

The public event was organised by our Miriam Brazzelli in collaboration with the University of Edinburgh and sponsored by The Italian Institute of Culture. The purpose of the event was to honour James Lind, a Scottish physician who conducted the first controlled study, to treat scurvy, in 1747. The main focus of the event was to discuss why evidence matters in decisions about treatments, interventions, and prevention.

**Sir Iain Chalmers talks about research waste**

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