

R&D TODAY



Public Health
Agency

The biannual newsletter of the Health and Social Care Research and Development Division

Issue 14 Winter 2010/11

Inside this issue:

- *Research in HSC Trusts*
- *All Ireland Institute for Hospice and Palliative Care*
- *North South Child Protection Hub*
- *Cancer Consortium Health Economics Conference*

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Foreword

**Professor Bernie Hannigan,
Director of R&D and
Chief Scientific Advisor**



This issue of R&D Today profiles work underway in three Trusts. It is clear to see that Trusts have worked very effectively to make good use of initial pump-priming funds – for example the Research Director’s Discretionary Fund in each Trust – to initiate projects that then lead to more substantial research activities that gain funding from external sources. Other aspects of the Trust research profiles include studies on the Northern Ireland Clinical Research network (NICRN). Studies that are of sufficient quality to be ‘adopted’ by the network frequently involve collaborations with clinical centres located across the UK or, sometimes, internationally. These studies allow local patients to access treatments that may be advantageous for them but that would not otherwise be available within the province. I am delighted to commend every member of staff of our HSC Trusts who participates in research.

For research really to make a difference for patients, the findings must be implemented and embedded in clinical or social practice. HSC R&D is using a wide variety of mechanisms to help the dissemination of research findings so that practitioners are more likely to become aware of potentially helpful results.

Another new initiative with the same aim is the North South Child Protection Hub. The

Hub is a new online resource that presents social care professionals with a one-stop-shop for reports and information from many sources including research. Research-aware practitioners and policy-makers should enable our HSC organisations to evolve to become research-led and evidence-led.

All of us are beneficiaries when our health and social care is informed by research and the best knowledge. So it is appropriate that we are enhancing our involvement with patients and the public. The HSC R&D Strategy for Personal and Patient Involvement (PPI) in Research is now available on the Public Health Agency website www.publichealth.hscni.net

The strategy is being implemented and our experience-to date of working with PPI representatives has been excellent. Please contact us if you are interested in volunteering for a PPI role either within HSC R&D centrally or with the research office in any of the Northern Ireland HSC Trusts.

A handwritten signature in black ink that reads "Bernie Hannigan". The signature is written in a cursive, flowing style.

Supporting research and development

Northern Health and Social Care Trust



**Dr Des Rooney,
Director of Research
and Development**

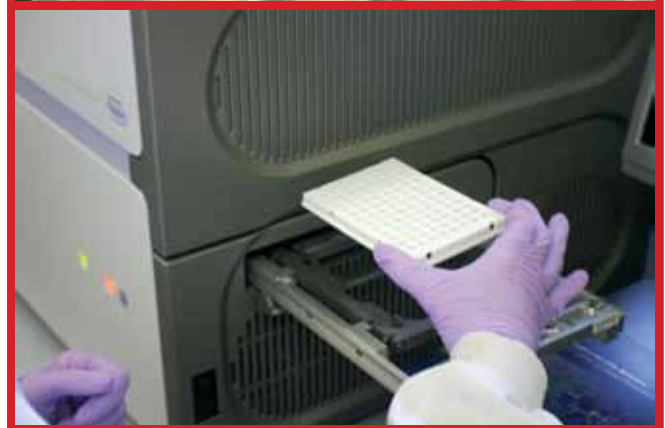
A quite diverse range of projects, ranging from laboratory scientific research using molecular biology techniques to research in a school setting with children

diagnosed with specific language impairment (SLI) and/or autistic spectrum disorder, received funding from the Research Director's Discretionary Fund to undertake projects within the Northern Trust over the past year.

Some of the very exciting research studies with the potential to directly benefit patients are:

- The pathology department at Antrim Area Hospital undertook studies on the diagnosis and classification of lymphoma and breast cancer. Molecular classification of lymphoma provides the haematologist and oncologist with a detailed report which helps to direct patient treatment and outcome. An experimental study of 20 cases examining BCL2, a marker associated with lymphoma, has now been completed. Two laboratory techniques used to identify this marker are fluorescence in situ hybridisation (FISH) and polymerase chain reaction (PCR). The research clearly demonstrated that FISH is superior to PCR. A follow-on from this study is now planned to examine an additional lymphoma marker – MYC translocation. These markers are of clinical importance as patients with lymphomas expressing both BCL2 and MYC are reported to have particularly poor

survival rates. Also, the drug Herceptin® is now recognised as an important treatment for patients with breast cancer that is positive for the Her2/neu receptor. The pathology department has additionally completed a study that used novel genetic testing to examine the presence of this important marker in tumour tissue from 100 patients with breast cancer. The



technique, using immunocytochemistry, has the potential to replace currently out-sourced analysis while improving diagnostic accuracy and laboratory turnaround times.



Dr Jim Carson



Dr Alan Cromie

- The Listening Programme (TLP) has been proposed as a useful intervention tool within the management of children with SLI and/or autistic spectrum disorder. Last year the Research Director's Discretionary Fund supported the purchase of equipment and training needs to deliver this programme in a research setting. A study of 34 affected children has now been completed that delivered TLP to half in the intervention group. The results are now being analysed and follow-on studies are being developed to further profile the intervention group, identify clients that may benefit from the intervention and formulate principles for TLP use in the school setting.

Supporting research and development

Southern Health and Social Care Trust



**Dr Peter Sharpe,
Director of Research
and Development**

Research activity within the Southern HSC Trust continues to increase, with 47 research applications having been received by the Trust Research

Office for the six month period from 1 April 2010, compared to a total of 62 for 2008/2009. Originating from medical, nursing, pharmacy, social care and allied health professional staff, the studies cover a wide a range of topics including new areas such as stroke, child care, psychology, learning disability, autism and attention deficit hyperactivity disorder (ADHD). The following are examples of some of the research studies:

- A randomised, double-blind, placebo controlled study of the drug RAD001 (everolimus) in the treatment of angiomyolipoma (fatty tumours) in patients with either tuberous sclerosis complex or sporadic lymphangiomyomatosis, a rare condition in children. The response rate to the drug will be compared to placebo. Craigavon Area Hospital (CAH) is the only site in Northern Ireland and is working with hospitals in England and Wales. Mr Aidan O'Brien, consultant urologist and Dr Charles Shepherd, consultant paediatrician, the researchers at CAH, are pictured with colleagues from the Trust Research Office and Mr Amardeep Rattan, clinical research associate, Parexel International, who conducted a study site visit in September.

- The Valentines Trial, a short term registry to assess clinical success and efficacy of the Paclitaxel-eluting balloon treatment for in-stent restenosis at six to nine months follow-up, involved 200 research sites throughout the world. The highest enrolment in the UK was achieved by the principal investigator, Dr Ian Menown, consultant cardiologist at CAH.
- Dr Rosemary Clarke, Consultant Histo/Cyto Pathologist at CAH undertook a research study to determine the utility of SurePath liquid-based cytology and HPV testing versus conventional cytology for testing of cervical pre-cancer and cancer in Uganda. This study was part of the University College London, Uganda Women's Health Initiative.



RAD001 (back, from left) Dr Charles Shepherd (consultant paediatrician), Mr Aidan O'Brien (consultant urologist), Mr Amardeep Rattan (front) Sara Gilpin (clinical research nurse), Mrs Irene Knox (SHSCT research manager)

Southern Health and Social Care Trust (continued)

- The FH02 Study, mammographic surveillance in women aged 35–39 years with enhanced familial risk of breast cancer, commenced in June 2010 and within four months has recruited three quarters of the target number of participants for CAH. This study is a follow-up to sites which participated in the FH01 study.
- The LCZ Paradigm Study is a multi-centre, randomised, double-blind, parallel group, active controlled study to evaluate the efficacy and safety of LCZ696 compared to Enalapril on morbidity and mortality in patients with chronic heart failure and reduced ejection fraction. This is a worldwide study with CAH being the only site in Northern Ireland.

The Trust is also very pleased to note the following research achievements by its staff:

- A consultant cardiologist at CAH has been awarded financial support from the HSC Innovations Technology Development Fund to assist with the development of a novel endovascular imaging device.
- The HSC R&D Division provided £50,000 for the Research Director's Discretionary Fund 2010/2011. Applications have been received from 21 staff representing forensic psychology, midwifery, cardiology, social work, occupational therapy, gastroenterology, anaesthetics, geriatric medicine, community paediatrics, dietitians, biomedical science, cardiac physiology, nephrology, cancer, pathology and practice education. It is hoped that funding can be awarded to the majority of these applicants.



(from left) Mrs Irene Knox (SHSCT research manager), Ms Denise Curran, Dr Peter Sharpe

- One of the Trust's finalists in the HSC Innovations Elevations Awards (www.hscinnovations.org), Ms Denise Curran, occupational therapist, was accepted for an oral presentation at the Autumn Scientific Meeting of the British Society for Surgery of the Hand. This event took place at the Royal College of Surgeons, London, in November. The focus of Ms Curran's presentation was the Jepsen-Taylor hand function test – a seven-part, timed diagnostic test. Results from administering the test can be compared with published normative data. The aim of the study was to investigate if integrating a template to the testing procedure led to a significant reduction in the time taken to administer the current procedure yet achieve the same result.

The Trust is very pleased with its increased participation in Northern Ireland Clinical Research Network (NICRN). Mrs Lynn Gregg has taken up the post of clinical research

Supporting research and development

Southern Health and Social Care Trust (continued)



nurse with NICRN. As a result, the critical care network-adopted study SPOT-Light, has been approved and has commenced at CAH. This is a prospective observational study. For approximately one year, doctors and critical care nurses will systematically describe the severity of illness of patients evaluated on the ward prior to admission to intensive care. The time period between the evaluation and eventual admission will be measured to investigate whether this delay affects eventual survival.

The HSC R&D Strategy for Personal and Public Involvement (PPI) was welcomed by the Trust's Research Governance Committee when presented by Dr Gail Johnston in September. Working with HSC R&D Division and the Patient and Client Council, three people have expressed an interest in being involved in research and development in the Southern HSC Trust. The Research Governance Committee looks forward to their involvement.

Western Health and Social Care Trust



**Dr Maurice O'Kane,
Director of Research
and Development**

Research has a high priority within the Western HSC Trust (WHST). The Trust recognises that excellence in research correlates with excellence

in clinical care delivery and supports the development of a vibrant research culture. Some 70 new research projects were commenced in the period 2009–2010, covering a broad array of topics ranging from pharmaceutical trials to social services research.

The Trust has identified chronic disease management and care delivery as an important research theme which aligns with the clinical activity of the Trust. An example of research in this area was a project undertaken jointly by Altnagelvin Hospital and University of Ulster to explore the impact of socioeconomic deprivation on outcomes in patients with type 2 diabetes mellitus.

Although deprivation is generally associated with worse health, there has been conflicting evidence regarding diabetes. It is an important question to resolve as it will impact on the targeting of resources in diabetes care. This was a large observational study undertaken in a cohort recruited from the diabetes service in Altnagelvin. This research showed that although deprivation was clearly associated with a significant adverse psychological impact, it did not appear to be associated with worse clinical outcome measures. These results suggest that the implementation of evidence-based treatment in a structured care

delivery setting can, at least in part, negate any detriment associated with deprivation.

The central role of the laboratory in patient assessment and management is illustrated by the fact that some 90% of all diagnoses are made by laboratory testing. The laboratory also has a major role in monitoring response to treatment and disease progression. However testing is expensive and, with escalating costs, it is important to ensure that testing is evidence-based and appropriate.

A recent study in the WHST showed high variability (up to 20 fold) between primary care teams in the number of tests requested per patient. For two common chronic conditions (diabetes mellitus and thyroid disease) the variability in testing did not appear to be related either to disease prevalence or to crude clinical outcome measures. This study suggests that there is considerable scope for standardisation and for improving the efficiency and cost-effectiveness of laboratory test requesting. A follow-up study is being planned on interventions to modify test requesting behaviour by healthcare teams.



Western Health and Social Care Trust (continued)

The Clinical Translational Research and Innovation Centre (C-TRIC) jointly developed by WHSCT, the University of Ulster and Derry City Council is a key focus of research activity within the Trust. C-TRIC provides an interface between the biobusiness sector and the clinical/academic communities to identify unmet needs and to expedite biotechnology product development. Examples of the synergy generated by the interaction of biobusinesses with the clinical/academic communities include:

- Higenix, a company based in C-TRIC that has developed technology for assessing and monitoring hand washing compliance. Infection prevention and control is a high priority within all HSC organisations so the product has obvious potential applications in both the healthcare and catering sectors.
- A C-TRIC based company, Clearway Medical (Biotech section winner in the 2010 Northern Ireland Science Park/Connect £25,000 awards) has been working with HSC and University of Ulster staff to develop a product for the assessment and management of asthma.
- C-TRIC was a recruitment site for the large all Ireland TUDA (Trinity, University of Ulster, Department of Agriculture) study investigating gene-nutrient interaction in degenerative disease and recently recruited its 1,000th patient, ahead of schedule. C-TRIC has identified diagnostic testing as a major focus of activity and has been building capacity in this area. This has been further supported by the appointment of a biomedical scientist funded by HSC R&D Division. An example of the type of research ongoing is a project with an international biotechnology company that is evaluating a point-of-care testing device.

The development of the Northern Ireland Clinical Research Network (NICRN) and the appointment of CRN nurses has been a major boost which directly benefits patients. The WHSCT has further supported the clinical research infrastructure by appointing Trust-funded research nurses in renal medicine and cardiology. Within the Trust, research nurses are now active in cardiology, critical care, diabetes, stroke, paediatrics, cancer and renal medicine.

The Western Trust sought research applications from HSC staff to their £50,000 Research Director's Discretionary Fund, provided by HSC R&D Division. The 2010 round attracted a large number of applications, many of which were collaborative projects with the University of Ulster. This has opened the possibility of matching funding from University of Ulster for these joint projects. The WHSCT has also made it a condition of funding for these pilot studies that external grant applications are made within an 18 month period for a minimum of £100,000. The Trust views the Discretionary Fund as an important way of pump-priming projects to develop data which will strengthen these larger external grant applications.

Funding opportunities workshop

Achieving research funding is never easy. Across Northern Ireland we have researchers who have successfully led applications for major awards. They and others also have rich experience of participating in the decision-making stages for major research funders, and funders themselves do, of course, have in-depth knowledge of the distinguishing features of applications that are likely to be successful.

To capture and distil this knowledge, HSC Research and Development Division organised a workshop at the end of October. Speakers included successful, experienced local researchers (Professors Alan Stitt, Brendan McCormack and Frank Kee) with Dr Janet Valentine from the Medical Research Council (MRC) and Dr Hannah Whiteman from Cancer Research UK. Participants were from both universities and from Trusts. A selection of take-home messages (in no particular order of importance) is below.

Eligibility

- Northern Ireland based researchers can apply as principal investigators (PIs) to a number of UK-wide funders. These are research councils, eg MRC; major charities, eg Cancer Research UK or The Wellcome Trust. In general, funding provided by the health department of each UK country is reserved for researchers in that country (For Northern Ireland, HSC R&D Division is the funder). The National Institute of Health Research (NIHR) provides research funding on behalf of the Department of Health, England. Through strategic funding arrangements, NIHR programmes may be open to other countries. The NIHR Public Health Research Programme and

Clinical Academic Fellowships are open to applications from Northern Ireland as any funds approved are provided by HSC R&D Division. However Northern Ireland-based researchers can be co-applicants on submissions to any funder so long as the PI is based in the correct jurisdiction. HSC R&D Division can provide you with advice on an opportunity if you are unsure of eligibility.

Before you write the funding application

- Make sure you get early warnings about forthcoming calls for research initiatives. Read the guidelines very carefully so you know exactly what a funder is expecting to see in applications. Discuss these with staff of the funding organisation – call them, even take a trip to meet with them. If an application does not fit the specification of a call, it will be removed at an early sifting stage – it will not even go out to peer reviewers.
- Research your prospective funder. Know who is on the awarding panel and their areas of interest.
- Review past successful applications



Funding opportunities workshop (continued)

- Commit to a dissemination plan, describe it clearly and engage with the potential end-users of the findings, eg HSC Trust, a professional group, a community organisation, a charity etc. Interact with them at the start of project development and keep in touch. Consider naming them as co-applicants.
- Involve your statistician at the very start of developing the proposal. Health economics advice will probably also be necessary. The Clinical Research Support Centre can help with these www.crsc.n-i.nhs.uk
- understanding of the project by exposing the weaknesses yourself. If you don't, a reviewer or panel member will.
- The applicants' CVs are extremely important. They demonstrate proven ability to attract funding, to manage and complete projects and to get published. If you don't have evidence of these achievements, apply as part of a team led by a more experienced person.
- Include a Gantt chart or similar for timelines.
- Value for money is not always easy to demonstrate. But 'bolt-on' support can make it more attractive, eg additional studentships from your institution, opportunity-led funding from HSC R&D.

Writing the application

- Write with clarity; honesty; simplicity. Remember that the panel members for the funder are unlikely to be experts in your field. Avoid acronyms and explain anything that is Northern Ireland – specific.
- Preliminary data are essential. These demonstrate your ability to undertake research relevant to the project for which you are requesting funding. If you don't have preliminary data, apply for a short project or pilot study. That should get you the data for a major application. Get a balance between innovation and feasibility.
- Ensure your proposed research methodology conforms to best practice guidance – many have been published eg CONSORT for clinical trials, REMARK for Biomarkers, RE-AIM for Public Health etc.
- Most applications require a lay summary of the project you wish to undertake. This is not a space for the abstract, nor for any jargon. It should be in very clear, non-technical language that also explains your motivation for doing the work.
- Most applications will have some weak point(s). Demonstrate your thorough

Before you submit the application

- Make sure your application is read by at least two 'critical friends'. Take their comments seriously and amend the application accordingly.

Post-submission

- When you have an opportunity to respond to referees' comments, make the most of it. It requires experience and skill. If you don't have those, ask for help from somebody who has.

Other

- Try to get some experience of panel membership – you can't influence how your application will be viewed but you will understand better how they work and what they expect to see in a fundable application.

Funding opportunities workshop (continued)



Summary

Getting funded – down snakes, up ladders (with thanks to Professor Alan Stitt)

Snakes

- Have no clear question to be addressed
 - experiments in search of hypothesis
 - avoid the key issues ... too difficult!?
- Be unrealistic
 - technical skills/experience
 - time scales of research
- Remain unaware of related research
- Fail to develop a profile (to match proposal)
- Be a lone scholar (avoid sharing ideas with colleagues)
- Be unprepared for failure or criticism

Ladders

- Start small and build on success
- Pick an area/niche and become an expert in this
 - aim for the world stage
- Commitment is the key
 - enthusiasm breeds success
- Team approach
- Hard work and lots of luck!

Research dissemination events

Over the past few months HSC Research and Development has held a series of seminars and other events with the main purpose of disseminating key research findings to staff within the Public Health Agency and more widely across all of the HSC. Each event also provided an introduction to research methodologies which staff might use in their everyday practice.

Topics to date have included the Antimicrobial resistance plan, Childsmile, the National oral health improvement programme for children in Scotland, Modelling complex environments in health and social care, Cochrane systematic review training, Peer mentoring in young mothers – the moments study, Suicide prevention – what works?, Finding public health evidence and Designer breastfeeding. Speakers were local and national experts from across Ireland and the UK. Attendees have included academics, health professionals, policy makers and commissioners, producing some lively debates as well as new partnerships and ideas for future working. Below are summaries of some recent seminars.

Childsmile – a Scottish intervention and evaluation that is improving children’s oral health

Northern Ireland has the worst children’s oral health in the UK and not very long ago our main competition for this dubious honour came from Scotland. However, dental caries levels among Scottish children have dropped considerably over the last five years so that the oral health gap between Northern Ireland and Scotland is now as wide as it has ever been.

Childsmile is the central plank in Scotland’s oral health improvement strategy. Professor



Lorna Macpherson and Dr Wendy Gnich, guest speakers at a Public Health Agency event, described the development, coordination and evaluation plans for this multi-stranded intervention. Most usefully, they explained how they dealt with many of the practical problems which frequently bedevil complex multiagency programmes such as this.

The Childsmile programme is made up of three separate elements: Childsmile core, Childsmile nursery and school and Childsmile practice. Under Childsmile core, at least six times before their fifth birthday, every child in Scotland receives a dental pack made up of a toothbrush, a tube of fluoride toothpaste (1000 ppm) and an information leaflet. In addition, all three and four year old children at nursery school are offered free daily supervised toothbrushing. The programme complements a healthy diet scheme operating in nurseries and schools.

Research dissemination events (continued)

Using the Scottish Index of Multiple Deprivation, nurseries and schools with the greatest proportion of children from the most disadvantaged areas are targeted for twice yearly fluoride varnish application by the Childsmile dental teams. Children as young as three can be entered into this programme and they may receive the varnish six monthly up until they leave primary school. The fluoride varnish is applied by specially trained dental nurses.

The purpose of Childsmile practice is to ensure that young children and their families avail of primary care dental services. Following referral from either a public health nurse or a health visitor, dental health support workers (DHSWs) facilitate appointments for children from three months onwards at any one of a network of general dental practices and community dental practices. The DHSWs then continue to work with families to overcome the barriers that prevent children becoming regular dental attendees.

Such a comprehensive, interlinking series of interventions requires well-planned and expert-led evaluation. Dr Gnich explained the approach being adopted, a programme theory-based model of evaluation. Delegates expressed great interest in the programme and were eager to see the findings of the evaluation.

Further details are available for both professionals and parents and carers at the Childsmile website: www.child-smile.org.uk

Designer breastfeeding captures the imagination

A recent seminar, delivered by Dr Janine Stockdale, Lecturer in Trinity College Dublin and Research Fellow at the Royal College of Midwives in London, was well attended by

colleagues from the PHA and other HSC bodies. Dr Stockdale, a former HSC R&D Doctoral Fellow, described how she applied various theoretical approaches from educational psychology to design a motivational method for teaching and supporting women to breastfeed. The talk sparked so many ideas and questions that it ran over time on a Friday afternoon – a testament to the interest in this topic. Moreover, the audience was so keen to engage with the research team that they agreed to discuss further knowledge transfer in this area.

The Cochrane Library – a valuable resource for clinical researchers and health professionals

The Cochrane Library is a collection of six databases that contain high-quality, independent evidence to inform all healthcare decision-making, including information relevant to patients, GPs, nurses, specialists, allied health professionals, clinical researchers and policy makers. You can use the Cochrane Library to identify the effectiveness of a treatment, to assess the benefits and harms of a particular treatment, research a specialty, identify gaps in research, or prepare guidelines. Thanks to funding by HSC R&D, all residents of Northern Ireland can access the Cochrane Library for free at the point of use – visit www.thecochranelibrary.com

So, why use the Cochrane Library?

Cochrane Reviews are widely regarded as the highest quality systematic reviews, based upon rigorous methodology, transparency and independence from outside influences. As of October 2010 over 4,400 systematic reviews have been published in *The Cochrane Database of Systematic Reviews* (CDSR), one of the six databases within the Cochrane Library, together with over 1,900 protocols

Supporting research and development

Research dissemination events (continued)

(reviews in progress). Now published monthly, each new issue of the CDSR contains on average 32 new reviews and 45 updated reviews.

In addition to the CDSR, the Cochrane Library contains the following databases:

- **Database of reviews of effects** – critically appraised abstracts of systematic reviews not published in the Cochrane Library. Published quarterly, the database currently contains over 13,500 records.
- **Cochrane central register of controlled trials** – bibliographic information of published controlled trials, including the results of hand searching the literature, and searches of non-English language publications. Published quarterly, the database currently contains over 600,000 records.
- **Health technology assessment database** – bibliographic details of completed and ongoing health technology assessments. Published quarterly, the database currently contains over 8,900 records.
- **NHS economic evaluation database** – bibliographic details of published economic evaluations, including quality appraisal. Published quarterly, the database currently contains over 28,900 records.
- **Cochrane methodology register** – bibliographic information on publications that report on methods used in the conduct of controlled trials, including journal articles, books and conference proceedings. Published quarterly, the database currently contains over 13,700 records.

You can sign up to receive email alerts each time a new issue of the CDSR is published, or set a saved search alert to receive emails each time new content matching your search criteria is published. For more information refer to the Cochrane Library Quick Reference Guide, available from <http://ow.ly/2RGtB>.



Also available from the Cochrane Library:

Podcasts - Cochrane Podcasts summarise and discuss the latest Cochrane Reviews through authors themselves describing the implications of their research. The Cochrane Library podcast programme was launched in January 2008 and now hosts over 200 podcast summaries. The podcasts are aimed at everyone interested in Cochrane Reviews, and have been written with non-specialist listeners in mind, so they are widely accessible. The podcasts can be downloaded free at www.cochrane.org/podcasts or by subscribing through iTunes.

Cochrane Journal Club - Cochrane Journal Club is a free, monthly publication that was launched by The Cochrane Library in 2009. Each issue introduces a recent Cochrane review together with relevant background information, a podcast, discussion questions, and downloadable PowerPoint slides containing key figures and tables. You can even contact the review authors with your questions. Aimed at trainees, researchers and clinicians for self-learning, or for presenting and discussing a Cochrane Review during a Journal Club meeting, you can access

Research dissemination events (continued)

Cochrane Journal Club free online at www.cochranejournalclub.com

Visit the Cochrane Library homepage www.thecochranelibrary.com to discover new and updated Cochrane Reviews, read recent editorials, and access the special collections of Cochrane Review content.

Society for Social Medicine 54th Annual Scientific Meeting

Dr Diana Gossrau-Breen, Health Development Officer (Research and Information) with the Public Health Agency, was one of two people to whom HSC R&D offered free places to attend this meeting. Below is Diana's report on this very interesting meeting.

This year's annual conference of the Society for Social Medicine (SSM) was held at Queen's University Belfast and offered a varied and exciting programme on chronic diseases, lifestyle factors/health behaviours, policies, inequalities, intervention, and more. Several presentations analysed different British cohort studies, attempting to link (early) childhood experiences with outcomes later in life. Some focused on health outcomes in adulthood, for example, parental separation with psychological distress in early adulthood or birth weight and obesity in adult females. Others stretched not as wide across the life course: one study showed that maternal employment in the early years had no detrimental effects on subsequent child socio-emotional behaviour; another linked prolonged breastfeeding in term infants with fewer parent-rated behavioural problems at age five.

Closer to home, findings from the recently completed *All Ireland Traveller Health Study* showed that, despite a decline in Travellers'

mortality, the gap between them and the general population widened. Moreover, in relation to Travellers' self-reported health status, material and psychosocial factors appear particularly important. Other Northern Irish and Irish studies focused on prevalence of self-harm and the incidence and repetition of hospital treated self-harm, respectively.

Two Scottish studies stood out for me. One explored the socio-economic patterning of cardiovascular disease (CVD) risk factors and found that those with lower socio-economic status (SES) had the heaviest CVD burden, with smoking being the single most important factor, while obesity is the greatest single risk factor in those with higher SES. The other study found that almost identical deprivation levels cannot explain the higher mortality rate in Glasgow as compared to Liverpool and Manchester, thus requiring further exploration.

Particularly useful were also the Cochrane lecture by Mark Petticrew who critically explored the usefulness and suitability of systematic reviews and the evidence they are based on. This links well with the new MRC guidance for using natural experiments to evaluate population health interventions which is under development and was focus of a stimulating debate during a conference workshop. Last but not least, a delicious conference dinner in Belfast's City Hall provided a great opportunity to meet fellow participants and socialise.

Future workshops will be advertised widely. To reserve a place please contact cara.mcclure@hscni.net.

Supporting research and development

Phase one of the Northern Ireland Biobank initiated

A collaboration between Queen's University Belfast (QUB), the Belfast Health and Social Care Trust (BHSCT) and the University of Ulster will create a unique biobank of clinical samples to support biomedical research within academia and industry across Northern Ireland.

Phase one of the Northern Ireland Biobank, led by researchers Dr Jacqueline James and Professor Peter Hamilton of the Centre for Cancer Research and Cell Biology (CCRCB) at QUB, will establish a collection of high quality tumour tissues and bloods with the consent of patients who are being treated for cancer in the Belfast Trust. The research that will benefit from the samples aims to enhance the prevention, diagnosis and treatment of a range of cancer types.

Collectively, over £1.9m has been secured to develop the infrastructure necessary for tumour banking to be successful. The tumour samples held in the Northern Ireland Biobank will be surplus to clinical need and will be redirected to the Biobank by BHSCT pathologists. Tissue and bloods will be accrued from individuals with gastrointestinal, breast, lung, head and neck, gynaecological and genitourinary malignancies. The bank will also support the storage of samples retained during clinical trials undertaken in the Northern Ireland Cancer Clinical Trials Centre and Network.

The Northern Ireland Biobank will be supported by a secure information management system which will be accessible to data managers in the Northern Ireland Cancer Registry so that tumour samples can be linked anonymously with robust clinical and pathological information. Local, national and international guidelines for the collection, storage and release of samples and data will be followed. The Northern Ireland Biobank will also promote collaboration with other



L-R: Dr Tong Lioe (Clinical lead for tissue pathology, BHSCT), Professor Dennis McCance (Director CCRCB), Dr Stephen McQuaid (tissue pathology, BHSCT), Dr Jacqueline James (scientific director Northern Ireland Biobank), Professor Peter Hamilton (CCRCB and IT lead for Northern Ireland Biobank) and Mrs Priscilla Clark (administrator Northern Ireland Biobank)

biobanks through its membership of the UK Confederation of Cancer Biobanks. A collection of readily accessible, high quality, well annotated tumour samples will be essential in the discovery of new biomarkers for cancer prognosis, prediction and indicators of clinical response and will support the approaches in stratified medicine being promoted across QUB's School of Medicine, Dentistry and Biomedical Sciences.

Funding for phase one of the Northern Ireland Biobank is provided by a consortium of three partners: Cancer Research-UK (CR-UK), the Health and Social Care Research and Development Division of the Public Health Agency (HSC R&D) and the Friends of the Cancer Centre (FOCC).

- As part of its Belfast Cancer Centre initiative, CR-UK has provided funds to enhance the research infrastructure within the BHSCT Tissue Pathology Department. This will facilitate sample accrual and molecular typing (£430,263).

Phase one of the Northern Ireland Biobank initiated (continued)

- HSC R&D has awarded £1,495,414 over five years to support day-to-day running costs and biobank staff (including an administrator, two research nurses and two medical laboratory assistants in the first instance).
- The Friends of the Cancer Centre have awarded two grants - one for £58,163 to create an information management system and the other (£12,913) to purchase a MacroPath Imaging System. A local digital pathology company, i-Path Diagnostics, have been awarded the tender by Queen's to create and support the IT system for the Biobank.



L-R: Mr Colin Fox (Senior data Manager Northern Ireland Cancer Registry), Mr Stuart Harvey (CEO, i-Path Diagnostics Ltd), Mrs Cathy Rooney (fund raising coordinator, Friends of the Cancer Centre), Miss Eileen Regan (i-Path Diagnostics Ltd), Professor Peter Hamilton (CCRCB and IT lead for Northern Ireland Biobank)

Priscilla Clark has been appointed administrator for the Northern Ireland Biobank. Priscilla has previous experience both within university and health service roles and will have responsibility for operational activities of the bank ensuring strategies, policies and development plans are implemented. A further key role will be liaison

with stakeholders such as the universities, BHSCT, HSC R&D, CR-UK and the FOCC. Priscilla will also coordinate access to the bank samples and facilitate their distribution and tracking. She will work closely with Sharon Dunwoody, the CR-UK Centre administrator, data managers in the Northern Ireland Cancer Registry and Dr Stephen McQuaid, BHSCT tissue pathology who will lead on issues relating to quality assurance and regulation.

Future phases of Northern Ireland Biobank will build on the procedures, experience and infrastructure gained through this first phase. Specimen collection and sharing for research in other disease areas will then be enabled. It is likely that a consortium of funders will be required to meet the additional costs.



L-R: Professor Peter Hamilton (CCRCB and IT lead for Northern Ireland Biobank), Dr Jacqueline James (Scientific Director Northern Ireland Biobank), Professor Bernie Hannigan (Director of HSC R&D and Chief Scientific Advisor to DHSSPS), Professor Dennis McCance (Director CCRCB) and Kate Williamson (CCRCB)

Success in research and development

All Ireland Institute for Hospice and Palliative Care

A consortium of hospices and universities across the island of Ireland has been awarded a €7 million contract to establish an Institute for Hospice and Palliative Care (AIHPC).

The Institute will improve the experience and understanding of palliative and end of life care by developing knowledge, promoting learning, influencing practice and shaping policy. The aim is to ensure best patient care for those approaching the end of life.

The contract was achieved through a tendering and review process facilitated by the Health Research Board, Dublin and HSC R&D Division. The full list of funders includes Atlantic Philanthropies, the Irish Hospice Foundation, the Health Research Board, HSC R&D Division and the Irish Cancer Society. Together they are providing €7 million in financial support over five years. In addition to this support, the AIHPC Consortium is contributing more than €4 million to the venture bringing the total investment over the five years to more than €11 million.

The consortium members are: Dublin Academic Medical Centre; Milford Care Centre, Limerick; Marie Curie Centre, Belfast; Northern Ireland Hospice; Our Lady's Hospice, Dublin; Queen's University Belfast; St Francis Hospice, Dublin; St James Hospital, Dublin; Trinity College Dublin; University College Dublin and the University of Ulster.

The Institute of Public Health in Ireland (IPH) is working with the funders and the new Institute to develop governance and evaluation systems for this new initiative.

Professor Judith Hill, CEO of the Northern Ireland Hospice, said: "We are delighted to be part of the establishment of the AIHPC.



It gives a great opportunity to build on the collaborative work already underway between hospices, health and social care organisations and universities in Northern Ireland to enhance the capacity for research, education and policy and practice in palliative care. This fits well with the local strategy *Living matters, dying matters* launched by Health Minister Michael McGimpsey in March 2010 which makes recommendations to improve care at the end of life. We look forward to working with colleagues across the island to make a real difference for individuals, families and communities."

HSC R&D Division will fund up to two three-year doctoral fellowships as part of the overall funding package available to the Institute.

Ministers launch North South Child Protection Hub

www.nscph.com

The Northern Ireland Health and Social Services Minister and the Republic's Minister for Children and Youth Affairs have launched a new online child protection internet resource believed to be the first of its kind in the UK and Ireland and across the world.

At the launch in Newry, Michael McGimpsey and Barry Andrews saw at first hand how the new internet resource known as the Hub (North South Child Protection Hub), will work. It is available for use by child protection professionals (policy makers, practitioners, researchers and educators) throughout the island of Ireland.

The Hub brings together research, policy and practice guidance, inspection reports, serious case reviews, court judgments, news articles and other material relevant to child protection published in Northern Ireland and the Republic of Ireland together with material from Great Britain and other countries. Staff in the HSC Board and Trusts in Northern Ireland and in the Health Service Executive in the Republic of Ireland will have access to the Hub but it will also be an important resource for all organisations concerned with child protection.

Welcoming the launch of the Hub, Minister McGimpsey said: "This is an exciting new development. It will ensure that child protection staff working on both sides of the border have immediate access to the most up to date information and research about child protection. We all have a responsibility to make sure our children are protected. I believe that better informed practitioners leads to better protection of children and the Hub will certainly help towards achieving this."

Speaking about the Hub, Minister Andrews said: "The Hub is an excellent resource to support evidence informed child protection policy and practice in both jurisdictions. The website differs from other resources in a number of important ways. It is targeted at staff working in child protection in the Republic of Ireland and Northern Ireland. It provides comprehensive information across the range of issues for staff working with children, ie legislation, policy, research and practice information. It will be updated daily and has cutting edge features that will save staff precious time and effort in accessing valuable research and information."

The start-up costs for the development of the hub were provided by the Department of Health and Social Services and HSC R&D in Northern Ireland and the Department of Health and Children via the former Children Acts Advisory Board in the Republic of Ireland. The Hub is maintained through membership fees that are scaled according to the size of the organisation.



Minister Michael McGimpsey and Minister Barry Andrews

Success in research and development

Ireland-Northern Ireland-National Cancer Institute Health Economics Fellowship Conference

On 19 November 2010, Belfast was host for this conference, organised by HSC R&D, entitled *The value of health economics for future cancer services*. The event provided a showcase for the work being undertaken by the current health economics (HE) Fellows from Northern Ireland and the Republic of Ireland. With attendees from research, policy and healthcare practice communities throughout the island of Ireland, in addition to colleagues from the National Cancer Institute (NCI) in the USA, the relevance of HE approaches was a central theme of the day.



CMO, Dr Michael McBride, with the current health economics Fellows

The conference was opened formally by Chief Medical Officer, Dr Michael McBride. Dr McBride is Northern Ireland's member on the Board of Directors of the Cancer Consortium and was instrumental in enabling our participation in the Fellowship programme. Keynote presentations followed from the NCI's Dr Martin Brown and Dr Dik Habbema from the Erasmus University Medical Centre, Rotterdam. Both are currently supervising the work of HE Fellows. Their insights

into the application of HE approaches to understanding healthcare interventions, for example cervical screening, stimulated a great deal of discussion.

Core resources for health economists are data. The richness of data available throughout the island was demonstrated by Drs Anna Gavin and Linda Sharpe of the Northern Ireland Cancer Registry and National Cancer Registry Ireland, respectively. Dr Sandy Fitzpatrick of the Northern Ireland HSC Business Services Organisation provided examples of the depth of accurate information on medicines that are prescribed in the province. Subsequent discussion explored the amazing possibilities for research using these population-wide data, especially through the linkage of different databases, all within an appropriate environment for the secure and legal management of information.

Professor Sally Brailsford from the University of Southampton demonstrated how information on human behaviours can be incorporated into computer-based models of healthcare interventions, specifically with reference to mammography screening. Such models developed by researchers can enable policies and practices to more accurately target those behaviours that either need to be reinforced or avoided.

The centrepiece of the day was a series of brief presentations from the current Fellows. Their four year training programme involves periods of taught university programmes in addition to research under the supervision of NCI mentors and their PhD supervisors. Fellows from the Republic are supported by the Health Research Board and, in Northern

Ireland-Northern Ireland-National Cancer Institute Health Economics Fellowship Conference (continued)



Dr Mary Dallat (Fellow) and Dr Dik Habbema (Erasmus University Medical Centre)

Ireland, by HSC R&D. The first Northern Ireland Fellow is Dr Mary Dallat. Dr Dallat brings an excellent new dimension to the cohort of Fellows as she is the first one to be medically qualified – her most recent programme has been the Masters in Public Health at QUB. Mary's research will focus on evaluating the impacts of physical exercise on cancer. This will be part of the evaluation of the proposed Connswater Greenway in East Belfast.

Professor Charles Normand of Trinity College Dublin provided a masterful overview of the day's learning points. At one point he had the attendees shouting out in chorus 'STUPID'. What was that about? It was a view on the value of developing healthcare interventions that were not informed by robust evaluation of the evidence base.

Attendees at the Health Economics conference gained some insight into the value of robust evaluation. Now the HE Fellows have enormous potential to inform cost-

effective decision-making in the future as cancer services evolve throughout the island of Ireland.



Ms Sally Campalani (BHSCT), Dr Joe Harford and Ms Isabel Otero (NCI International Office), Dr Martin Brown (NCI)

Success in research and development

Research update on Medical Research Council (MRC) funded study

Principal Investigator Dr Danny McAuley

Hydroxymethylglutaryl-CoA reductase inhibition with simvastatin in acute lung injury to reduce pulmonary dysfunction (HARP-2)

Acute lung injury (ALI) is a common devastating clinical syndrome in the critically ill characterised by life-threatening respiratory failure (requiring mechanical ventilation) and multiple organ failure. It is a major cause of morbidity and mortality. Based on available data in the UK and Ireland, it is estimated that up to 45,000 cases of ALI occur with some 13,000–22,000 deaths per year in patients with ALI.

There are no effective pharmacological therapies for ALI. In view of a large body of evidence from in vitro, animal, and observational studies and a randomised controlled clinical trial in a human model of ALI that statins are a potentially beneficial pharmacological treatment in ALI, the HSC R&D Division funded a phase 2 translational research study as part of a doctoral fellowship. The study aimed to investigate whether simvastatin improves pulmonary and non-pulmonary organ dysfunction, reduces inflammation and is well tolerated in patients with ALI.

This study was undertaken at the Regional Intensive Care Unit in the Belfast HSC Trust. Importantly the study was adopted by NICRN (Critical care). By day 14, the simvastatin-treated group showed improvements in pulmonary dysfunction and non-pulmonary organ dysfunction and simvastatin was well tolerated. In addition, simvastatin was found

to have an anti-inflammatory effect providing a biological rationale for its use in ALI.

On the basis of this HSC R&D funded study, the Efficacy and mechanism evaluation programme (www.eme.ac.uk), which is funded by the MRC and managed by the National Institute for Health Research (NIHR), have funded HARP-2. This is a multi-centre, randomised, double-blind, placebo-controlled trial to evaluate the effect of simvastatin versus placebo in patients with ALI in sites across the UK and Ireland. The target is to recruit 540 patients. For the Republic of Ireland, the Health Research Board and the Intensive Care Society of Ireland have also provided additional funding.

As well as the central importance of the HSC R&D funded study which informed the design of HARP-2 and provided pilot data to obtain this national funding, several additional local factors contributed to success in obtaining funding for HARP-2. The study is being managed by staff from the Clinical research support centre which is a (provisionally) registered clinical trials unit (CTU).

Furthermore the study will be supported by the infrastructure provided by the Northern Ireland and NIHR clinical research networks. The NIHR, as well as many other national funders, will not fund clinical studies unless they are supported by a CTU and a clinical research network. Finally, Victoria Pharmaceuticals at Belfast Trust, which is a unique resource in Northern Ireland, provided the drug for the pilot study and were able to guarantee experienced management of the HARP-2 study drugs (both the simvastatin and matched placebo) at a competitive cost.

Research update on Medical Research Council (MRC) funded study (continued)

To conclude, it is clear that, using the resources available in Northern Ireland from the HSC R&D Division, the clinical research support centre as a CTU, the Northern Ireland Clinical Research Network (NICRN) and Victoria Pharmaceuticals, we are well placed to develop projects that will achieve national funding to undertake multi-centre studies led from Northern Ireland.

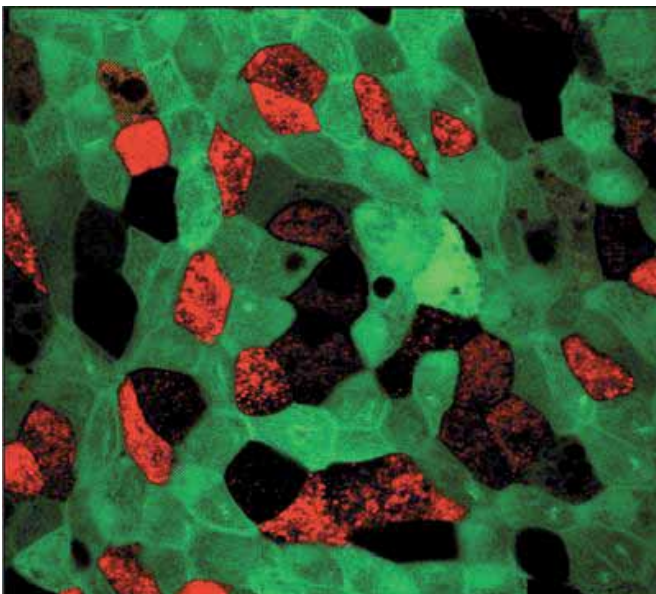


Success in research and development

Select image: Sendai virus

The American Society for Microbiology selected the image below for the front cover of the last edition of the *Journal of Virology* for 2010. The image shows Sendai virus interacting with epithelial cells and was included as a diagram in a paper entitled 'Cytopathogenesis of Sendai Virus in Well-Differentiated Primary Pediatric Bronchial Epithelial Cells' published in the edition. The research project was led by Dr Ultan Power, Centre for Infection and Immunity QUB. Funding was provided by HSC R&D through the Infectious Disease RRG. The paper is available at: <http://jvi.asm.org/cgi/content/full/84/22/11718>

Cover photograph (Copyright © 2010, American Society for Microbiology. All Rights Reserved.): Sendai virus does not infect goblet cells in well-differentiated primary pediatric bronchial epithelial cell cultures. En face view (upper) and orthogonal section (lower) of a well-differentiated primary pediatric bronchial epithelial cell culture infected with a recombinant Sendai virus expressing enhanced green fluorescent protein. MUC5AC staining (red) of goblet cells shows that Sendai virus does not infect this cell type. (See related article in November 2010, vol. 84, no. 22, p. 11718.)



Noticeable achievements

Opportunity led research awards

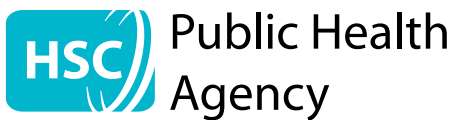
Lead applicant	Project title	Co-funder
Professor Vivien Coates	To evaluate the effectiveness of a structured education programme about diet and insulin management for adolescents with type 1 diabetes	Chest Heart and Stroke Northern Ireland
Professor Cliff Taggart	The effect of antiproteases on pro-inflammatory mediator release and expression by alveolar neutrophils and macrophages in acute lung injury	
Dr Anna Gavin	HPV prevalence in cervical cancers and premalignant lesions of the cervix	DHSSPSNI
Professor Helen Dolk	EUROCAT	European Commission

Needs led research awards: implementing the Bamford Report on mental health and learning disability - rapid reviews

Lead applicant	Project title
Professor Geraldine McDonald	Children and young people
Dr Eamonn Slevin	Learning disabilities
Dr Michael Donnelly	Patient outcomes
Professor Brendan Bunting	Primary care
Dr Mandy Irvine	Psychological therapies

Adding value: Knowledge transfer awards

Lead applicant	Project title
Dr Liam Heaney	Take control of asthma: improving stakeholders' understanding of poor medication adherence in difficult asthma and the utility of a targeted management strategy
Dr Brenda O'Neill	Living well with chronic obstructive pulmonary disease for pulmonary rehabilitation: implementation in Northern Ireland



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