Issue 10 SPRING 2008

R&D today

for tomorrow's HSC

NATIONAL SUCCESS FOR LOCAL RESEARCH TEAM

RESEARCH LEAVES YOU BREATHLESS

R&D OFFICE CONFERENCE 2007

HSC INNOVATIONS IS LAUNCHED

Health and Social Care Research & Development Office for Northern Ireland.

r&d office

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R & D Office
12-22 Linenhall Street
Belfast BT2 8BS

Tel: 028 9055 3617
Fax: 028 9055 3674

ENVOI

Professor Robert Stout, Director of Research & Development, HSC

In the winter of 2002 I launched R&D Today with a message of welcome to its first issue. Issue number 10 is being published as I retire as Director of Research & Development and this is therefore a farewell message. I do not intend to write a comprehensive review of all the activities of HPSS, now HSC, research and development in the last six years but I will highlight some of the areas which I think are important.

In 2002 I mentioned that one of the tasks of the Director is to review the R&D Strategy. As a result a new Strategy was introduced in 2007. It builds on the first Strategy, introduced by Professor Ingrid Allen in 2000 and sets the work of the R&D Office in the context of many developments in the last few years. It sets out five strategic priorities which are:

- developing an enabling infrastructure to support HSC R&D
- building research capacity for HSC R&D
- funding HSC R&D
- supporting innovation as a means of transferring HSC R&D findings into practice and where appropriate into commercial benefits
- ensuring patient and public involvement in HSC R&D

We have made significant progress in the first four of these in the last few years and are working to implement patient and public involvement, a more complex task than might appear at first sight.

Our emphasis must always be on quality of the research that we support. Supporting research that is not of the highest quality is not only a misuse of public funds, it is also potentially dangerous as it may produce spurious conclusions which have an adverse influence on health and healthcare. We try to ensure the highest possible quality by the peer review process in which all of our applications are subject to review by experts external to Northern Ireland and by the awards being made on the recommendations of teams which are external to the HSC R&D Office. For some of the awards eg the Fellowship programme, the teams consist of researchers from Northern Ireland with an external chair and for the major awards e.g the RRG awards the whole of the team and the chair come from outside Northern Ireland. For some other awards we have a mixture of local and external expertise.

The application process, the assessment of applications and the award of funds are the inputs to research. More important are the outputs and the outcomes with regard to health and social care, and the reputations of the researchers. I believe we have a good story to tell on this.

Northern Ireland researchers have been successful in three major national initiatives by collaborations of research funders which included the HSC R&D Office. In chronological order these are:

- the NTRAC Centre now the Experimental Cancer Medicine Centre which focuses on translational cancer research and is based in the Centre for Cancer Research and Cell Biology in Queen's University Belfast
- the Wellcome Clinical Research Facility, a centre for detailed clinical research which will be sited in a new development on the Royal Victoria Hospital site and was a collaborative bid from Queen's University Belfast, the University of Ulster, the Royal Hospitals' Trust, the Belfast City Hospitals'

Trust and the Research & Development Office and was one of 12 awarded in a competition run throughout the UK and Ireland

- the Centre of Excellence in Public Health, a collaborative bid from Queen's University, the Chief Medical Officer, the Health Promotion Agency and the Institute of Public Health in Ireland and was one of only five awarded in a UK-wide competition.

In addition, a number of clinicians and clinical scientists have been awarded National Career Development awards in a highly competitive process open to applicants from the whole of the UK.

The successful people, in chronological order, are:

Professor Carmel Hughes - **Pharmacy**
Dr Sharon Madigan - **Dietetics**
Dr Nigel Hart - **General Practice**
Professor Peter McCarron - **Epidemiology**
Dr Michael Tunney - **Microbiology**
Dr Cecilia O'Kane - **Respiratory Medicine**

In addition, Dr Bernie McGuinness has been awarded a Beeson Post-doctoral fellowship in Geriatric Medicine

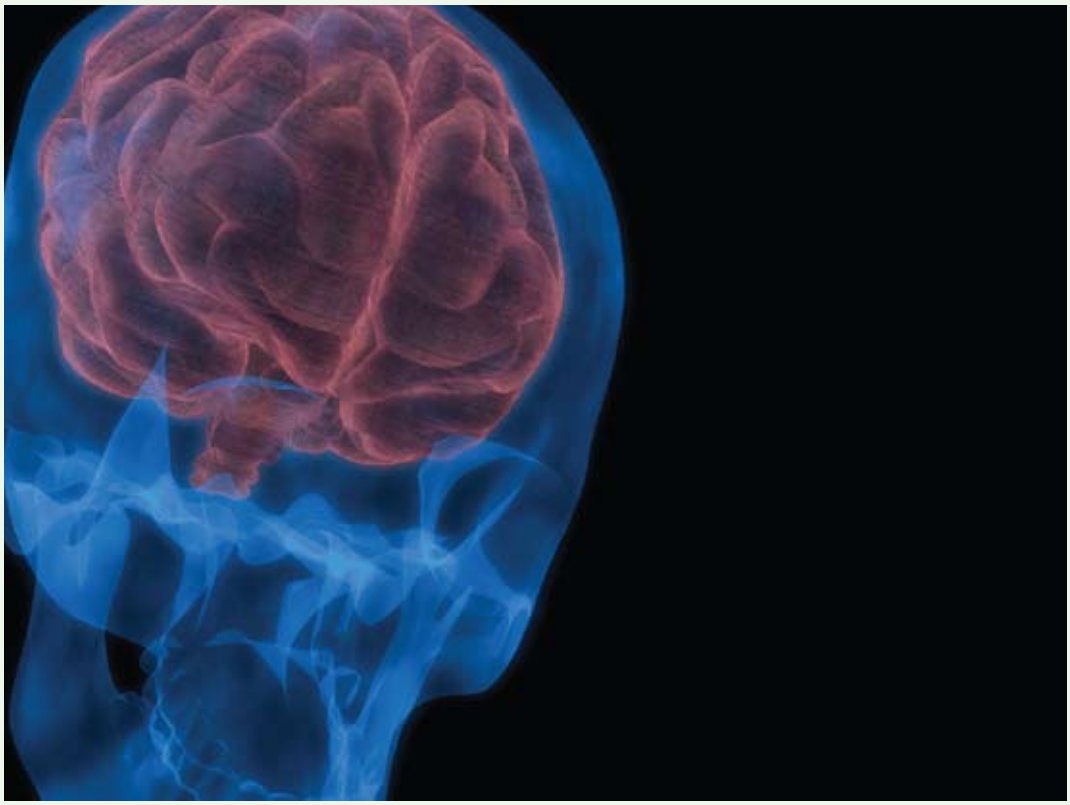
There has also been a welcome increase in the number of successful applications to national funding bodies including Research Councils and major charities including the Wellcome Trust, Cancer Research UK and the Arthritis and Rheumatism Council. We believe that funding from the HSC R&D Office should be used to allow researchers in Northern Ireland to develop their skills and research records so that they can successfully apply for national and international grant funding. Research income in Northern Ireland remains below what should be expected in relation to its size. The successes so far should encourage others to apply.

There are also many important outcomes from the research some of which are listed in the new Strategy document. These include developments in coronary care, brain imaging, meningococcal meningitis, cardiac defibrillation, social services for vulnerable children, predictors for coronary disease, allergic airways inflammation in childhood asthma, and the genetics of Retinitis Pigmentosa. HSC Innovations under Dr David Brownlee has been established to aid the application of research findings into practice and commercial benefit.

Our major commissioned research programmes in Targeting Social Need, Investing for Health and antimicrobial resistance are coming to an end. Some of these may be re-launched but there will be others including research to support the results of the Bamford Review of Mental Health. We would like to expand our commissioned research strand so that more of the research which the R&D Office supports is directly related to policy and to the needs of health and social care as a whole.

One of the changes which was not anticipated in the previous Strategy was the development of new national and international links. One of the most important of these is the UK Clinical Research Collaboration. The Clinical Research Facilities and the Public Health Initiatives both arose from it as did the National Prevention Research Initiative. Collaboration has now been taken further with the formation of the Office for Scientific Co-ordination of Health Research (OSCHR) and we are working on how Northern Ireland may best interact with this. We continue to be assured that our access to the Medical Research Council and to its funds will not be diminished by any arrangements it makes with OSCHR. OSCHR's main emphasis is currently on translational research and research in public health.

We continue to work very closely with the Health Research Board in Dublin and we hope that this will continue when they have appointed their new Chief Executive. The Ireland-Northern Ireland National Cancer Institute Cancer Collaboration continues its work and a new Memorandum of Understanding was signed last year extending the work of the Collaboration for a further five years. The Collaboration has produced benefits particularly in training and allowed



a large number of cancer researchers and clinicians from Northern Ireland to receive training in the United States. The All-Ireland Clinical Oncology Research Group is undertaking a number of clinical trials in cancer research on an all-island basis and we hope that some of the other NICRN networks will collaborate with colleagues in the Republic of Ireland. The US-Ireland R&D Partnership is another international collaboration but is still in its formative stage. Applications in the fields of Diabetes and Cystic Fibrosis from three-way collaborations have been submitted to NIH and we should hear the results of these in 2008.

A major new infrastructure initiative arising from the UK Clinical Research Collaboration has been the Northern Ireland Clinical Research Network (NICRN). We are in the process of developing nine networks to facilitate clinical trials and other well designed clinical research. The key to clinical trials in Northern Ireland is the Clinical Research Support Centre led by Dr Karen Bailie. The CRSC has recently received UKCRC provisional registration as a Clinical Trials Unit (CTU). As the Northern Ireland CTU, the CRSC provides essential support particularly in trial design, statistics, health economics and data management, for the NICRN as well as the All-Ireland Clinical Oncology Research Group and the Northern Ireland Cancer Clinical Trials Unit. I believe that the last few years has been a period of success for HSC R&D and this was highlighted by the conference held in W5 in September 2007. It was a busy occasion with a great buzz of activity and seemed to be enjoyed by all participants. Our intention is to repeat the conference on alternate years.

The greatest pleasure of my time as Director of HSC R&D has been working with so many colleagues. I have had the pleasure of working with large numbers of researchers, some of whom I have known in the past, others I have met for the first time, but in all cases I have been impressed by their skills, ingenuity, dedication to their work and how pleasant it has been to work with them. The HSC R&D Office itself, led by Dr Michael Neely, is the power house behind all of this. When I started as Director of R&D I had no idea of the extent of the activities of the R&D Office. It consists of a dedicated and highly skilful team of people who work extremely hard and are dedicated to supporting and enhancing health and social care research in Northern Ireland. It has been a pleasure to work with them and I thank them for all that they have done.

Professor Bernie Hannigan takes office as Director of R&D on 1 April 2008. I wish her well and I hope that she enjoys the post as much as I have done.

NATIONAL SUCCESS for Local Research Team

A research team headed by Professor Gary McVeigh, Professor of Cardiovascular Medicine at Queen's University Belfast and Consultant Physician at the Belfast City Hospital Trust and Dr Canice McGivern, Director of the Northern Ireland Medical Physics Agency won a prestigious UK Innovation Award for work that enabled detection of arterial vascular disease at an early pre-clinical stage. The Medical Futures Cardiovascular Innovation Award was presented by Dr Philip Hammond at a gala ceremony in London on June 14 2007. The work was funded by grants from the HSC R&D Office, Invest Northern Ireland and the Wellcome Trust that provided the essential support to enable the research team to turn a concept into a commercial product.

The awards are organised every two years by Medical Futures, an organisation that seeks to make medical ideas happen. It helps bring viable medical ideas to market, whilst ensuring the interest and intellectual property of the innovator are protected. Medical Futures Innovation Awards represent a national showcase of clinical and commercial excellence. The awards help encourage, support and reward new ideas and advancements in health care that can improve people's lives.

The innovation awards have become the UK's most sought after health care accolade. In four years the programme has grown to include a host of national speciality award areas, working hand in hand with medical and scientific key representative bodies, to encourage, support and reward clinical and commercial excellence from the health care and life sciences professions. This year the cardiovascular award was sponsored by the US industry leader Boston Scientific.

The judging panel, which endorsed the novel research, included Professor Sir Magdi Jacoub, Professor of Cardiac Surgery, Imperial College, London and the pioneer of the heart-lung transplant surgery, Professor Martin Rothman, Professor of Interventional Cardiology, University of London, and Dr Roger Boyle, National Director for Heart Disease, Department of Health, London.

The technique employs ultrasound to record blood flow patterns close to end-organs, such as the eye and kidney, known to be preferential targets for early vascular damage. The development of novel software to analyse the flow waveforms has enabled the team to identify vascular disease at the earliest stages and has also proven useful in evaluating the impact of new and existing drug therapies on arterial blood vessels.

Professor McVeigh, commented "It is a marvellous endorsement of our research team and should be of immense benefit as we seek to commercialise the technology through the licensing agreement with an established equipment manufacturer. The ability to detect and monitor blood vessel damage at the earliest stage possible, holds potential not only to more precisely estimate the risk of developing future vascular events but also to intervene at a pre-clinical stage

Professor Gary McVeigh
Professor of Cardiovascular Medicine
Queen's University Belfast and
Consultant Physician at the
Belfast City Hospital Trust

to prevent or delay disease progression. Our success demonstrates the importance of clinical research and the contribution research and development can make to effective health care."

Dr Canice McGivern, Director of the Northern Ireland Regional Medical Physics Agency and research collaborator with Professor McVeigh, commented "This award recognises the importance of cross speciality working in the development and delivery of a modern healthcare service. The ability and opportunity to bring together clinicians, scientists and other healthcare professionals promotes an environment that fosters the development of new approaches to healthcare delivery."

Professor Robert Stout, Director of R&D for HSC commenting on the award said "This is a great achievement by Professor McVeigh and his team which not only recognises his expertise but shows the value of research and development in health and social care.

The ability to detect cardiovascular problems at an earlier point and to monitor the effectiveness of subsequent treatments is the significant advance. The award highlights the benefits of close research links between our universities and the health and social care services and how health and social care research can lead to commercial as well as health benefits."

Professor McVeigh has submitted a joint proposal with an international ultrasound compound to further develop and exploit the potential of the technique.

Left to right:-
Dr Man-Fai Shiu
- Consultant Cardiologist and one of the Cardiovascular Innovation Award judges
Mark McIntyre
- Director, Boston Scientific who sponsored the Cardiovascular Innovation Awards
Dr Canice McGivern
- Director Northern Ireland Medical Physics Agency, Award Winner
Professor Gary McVeigh
– QUB, Award Winner
Dr Phil Hammond
- General Practitioner and comedian awards presenter.

ASPECT: - Clinical Trial

The incidence of oesophageal cancer is increasing faster than any other cancer in the Western world. It commonly presents with difficulty in swallowing and affects men more than women. Despite our best efforts to treat the condition the prognosis is very poor and has hardly improved in the last 40 years (5 year survival for men in 1971 3% and in 2001 7%). Oesophageal cancer is now the fifth commonest cause of cancer death in the UK (7350 per year (2001), of which there are 150 per year in Northern Ireland).

There are two types of oesophageal cancer: squamous and adenocarcinoma. It is the latter that is becoming more common and accounts for the rapid rise in the condition. There is strong epidemiological evidence to indicate that the tumour is in part caused by the irritation associated with reflux of the acid contents of the stomach into the oesophagus (gastro-oesophageal reflux disease), which typically causes the symptom of heartburn. When reflux is severe the lining of the lower oesophagus can undergo a change in structure so that it comes to resemble the lining of the intestine. This can be recognised when a patient has a routine camera test of the stomach and is called Barrett's oesophagus, named after Norman Barrett, who first described it in 1956. It is known that the risk of developing cancer in Barrett's oesophagus is 0.5 – 1.5% per year.

For this reason many gastroenterologists follow up patients with Barrett's oesophagus at regular intervals with the intention of detecting early cancers when they can be more successfully treated.

The aim of the Aspirin and Esomeprazole Chemoprevention Trial of Oesophageal Cancer in Barrett's Oesophagus Patients (AspECT) study is to determine if it is possible to prevent oesophageal cancer. The design utilises the common practice of surveillance of Barrett's oesophagus patients. Patients are randomised to receive high dose acid suppression treatment (esomeprazole) versus a conventional dose. It is hypothesised that significant acid reduction will reduce the irritation in the lower oesophagus and reduce cancer development. Patients are also randomised to taking aspirin versus no aspirin. Aspirin has been shown to be an effective anti cancer drug in the intestinal tract, particularly the colon. The hypothesis is that it will also be an effective anti cancer drug for the oesophagus.

The study is sponsored by Cancer Research UK (CRUK) and National Cancer Research Network (NCRN). The trial centre is in Oxford. It requires 5000 Barrett's patients to be followed for 8 years to determine if the treatments are effective in preventing cancer and cancer deaths. It is one of the largest trials ever attempted and requires a national effort. It started in July 2005 and to date over 1000 patients have been entered from over 60 centres in the UK. NCRN nurses provide support for the trial in the UK. At the time it started we did not have NCRN in Northern Ireland and the HSC R&D Office generously agreed to fund the equivalent

Dr Peter Watson
Senior Lecturer in Medicine QUB and Consultant Physician RVH

nurse support. From January 2006 we have had 3 part time research nurses: Mrs Heather Lawther, Mrs Clair Gallagher and Mrs Alison Lloyd. Their dedication and obvious professionalism has been vital to developing a network to enable the participation of all hospitals and clinicians who wish to take part. We are grateful to so many of our clinician colleagues who have been so enthusiastic in their support for the trial. We started with the central Belfast hospitals and spread outwards (see Table). We have now recruited over 180 patients and look forward to boosting this further when two new sites start up very soon at Altnagelvin and Causeway hospitals. The trial will then effectively cover the whole of Northern Ireland. We are one of the most successful UK regions for recruitment with our top 3 hospitals among the top 10 recruiters in the UK.

Royal Hospitals	56
Whiteabbey Hospital	31
Craigavon Area Hospital	30
Lagan Valley Hospital	17
Mater Infirmorium	17
Belfast City Hospital	13
Antrim Area Hospital	11
Ulster Hospital Dundonald	8
Total	**183**

AspECT recruitment in Northern Ireland at 10.05.07

We have learnt a lot about setting up a research network. A great deal of work is required to support busy clinicians who, although enthusiastic, do not have much time to complete research governance processes and ethics applications. A great deal of this initial administration was carried out by the AspECT team and continues for the documentation of patient details at entry and follow up as well as trial drug distribution.

AspECT represents a revolutionary shift in healthcare. It seeks to explore the possibility of prevention of oesophageal cancer and offers the possibility of significant benefit for an otherwise depressing condition.

Footnote:
Statistics of the incidence, mortality and survival of oesophageal cancer in the UK and Northern Ireland were kindly provided by CRUK and the N Ireland Cancer Registry

R&D OFFICE CONFERENCE 2007

In September, the HSC R&D Office hosted its first Conference at W5 in Belfast. We were delighted that Mr Andrew McCormick (DHSSPS) was available to open the conference and to welcome delegates to what was a busy and informative day.

During the morning plenary session which was chaired by Dr Michael McBride, the some 200 delegates had the opportunity to learn first hand about the future direction for HSC R&D through the launch of "Research for Health and Wellbeing (2007-2012)." This Strategy, which was published by the HSC R&D Office earlier in 2007 and which will set the scene for health and social care R&D in Northern Ireland over the next few years, was presented by Professor Robert Stout. During the remainder of the morning plenary session a number of speakers focused on some of the key issues that are impacting on HSC researchers. This included presentations on Clinical Research Networks from Professor Peter Selby, Dr Karen Bailie and Dr Mike Smith and presentations on the new Clinical Research Facility and the Experimental Cancer Medicine Centre by Professor Ian Young and Professor Paddy Johnston respectively. The afternoon plenary session, chaired by Mr David Sissling, was equally informative. An "international flavour" was introduced to the conference via a presentation on self management from Professor Katie Lorig (Stanford University, USA). Finally delegates were provided with an overview of the benefits of All-Ireland collaboration in research by Dr Ruth Barrington (Dublin).

A key aim of the conference was to showcase the wide range of research funded by the HSC R&D Office. In addition, the conference was to provide delegates with an opportunity to keep up-to-date with interdisciplinary developments and to discuss the latest research findings with colleagues across research areas and locations. These aims were achieved through a number of themed breakout sessions showcasing 32 separate research projects across a range of research areas and disciplines. In addition, there was an extensive poster display consisting of almost 70 research posters. There was space in the conference schedule to allow delegates to view these posters and to meet with research colleagues whilst enjoying a cup of coffee. A number of the posters were presented by those undertaking higher degrees funded under HSC R&D Office Education and Training Schemes. These posters were entered into a poster competition. Professor Sean Fulton was delighted to be able to award the prize to Carole McIlrath for her poster entitled "Identification of appropriate benchmarks for primary care based nursing services for adults with depression."

Dr Glenda Fleming, HSC R&D Office

A key strategic priority for the HSC R&D Office is to ensure that there is an appropriate enabling infrastructure to support and facilitate HSC R&D. Coupled with this is the need for effective strategic links with key partners. Delegates had the opportunity to visit a number of exhibition stands highlighting the infrastructure support available for researchers in Northern Ireland funded by the HSC R&D Office for example the Clinical Research Support Centre and The Nucleic Acid Extraction Centre. In addition there were exhibition stands from many of research relevant organisations within Northern Ireland, the rest of the UK and from the South of Ireland.

Overall, the feedback relating to the conference was extremely positive. Delegates reported that they were pleased to have the opportunity to see the range of research being carried out in Northern Ireland. In addition, they recognised the excellent networking opportunity that the conference presented. The HSC R&D Office would like to thank all those involved in the conference, in particular we would like to thank all of those who presented on the day, chaired sessions or contributed to the exhibition stands. We would also like to thank the staff of Creative Events and W5 who assisted with the smooth organisation and running of the conference.

HSC INNOVATIONS IS LAUNCHED

On October 17 2007 **HSC Innovations,** the Intellectual Property (IP) and Innovation Management service delivered by the Clinical Research Support Centre (CRSC), was officially launched. The event, which was held at the Hilton Hotel Templepatrick, was attended by more than 100 delegates from Health and Social Care organisations, industry and academia.

HSC Innovations has been established with financial support from the Department of Innovation, Universities and Skills (DIUS) Public Sector Research Exploitation (PSRE) Fund, the HSC R&D Office and Invest Northern Ireland. The service provides Health and Social Care (HSC) staff in Northern Ireland with support for:

- IP and innovation awareness and training events
- identification and assessment of new ideas
- protection and management of IP
- advice on and negotiation of IP clauses in research agreements, confidentiality agreements, material transfer agreements and licenses
- funding for IP and technology development
- links with the healthcare industry and academia

The service was launched by Michael McGimpsey, Minister of Health, Social Services and Public Safety, and by Nigel Dodds OBE, Minister of Enterprise, Trade and Investment. Minister Dodds offered his full support for **HSC Innovations**:

"The ability to identify new products and bring knowledge based research to commercial viability is key to Northern Ireland's economic competitiveness. Working with Invest NI, the HSC Innovations Centre of Excellence will harness the research and technology strengths of the Health Service, creating potentially lucrative international trade opportunities for local businesses."

This sentiment was reiterated by Michael

Dr David Brownlee and Minister Nigel Dodds pictured with a cardiac defibrillator, a healthcare product that was invented by a clinician from Northern Ireland, Dr Frank Pantridge.

(L-R) Dr David Brownlee, Dr Karen Bailie, Professor Robert Stout, Minister Michael McGimpsey, Dr Michael Neely, Dr Peter Donnelly

Dr David Brownlee
& Dr Jennifer Richardson
HSC Innovations,
Clinical Research Support Centre

McGimpsey who opened the afternoon session:

"To make real improvements in health and social care, we need to exploit new ideas and innovations. The aim is to identify new technologies and services arising from research and clinical practice, and ensure they are developed to improve patient care. ***HSC Innovations*** *will help channel these novel developments in a way that will enable all the people of Northern Ireland to benefit from the latest advances in knowledge and technology, for better health and social wellbeing."*

Minister for Health, Social Services and Public Safety, Mr Michael McGimpsey, addressing the launch delegates and offering his support to ***HSC Innovations***

Other speakers at the event included Dr Tony Bates, who was previously the Intellectual Property Advisor to the National Health Service in England; Dr David Chilvers, Chief Executive of NHS Innovations London; Mr Richard Clark, Chief Executive of Medipex; and Dr Theodore Roumel, who spent 11 years as Assistant Director for Technology Transfer at the National Institutes of Health (NIH). Presentations were also given by a number of healthcare professionals who are developing new healthcare technologies with support from **HSC Innovations**: Dr Michael Scott and Mr Peter Beagon, who have developed a software tool for Pharmacists in conjunction with a local company (Yarra Software); Dr Derek Fairley who is working on a new diagnostic test for meningitis; and Drs Mark Jenkins and Paul McCarron who have devised a new way of simultaneously applying local anaesthetic and cleaning a wound site.

HSC Innovations launch speakers (L-R): *Dr Derek Fairley, Dr David Chilvers, Mr Richard Clark, Dr Mike Scott, Dr Tony Bates, Mr Michael Martin, Dr Mark Jenkins, Dr Peter Beagon, Dr Peter Donnelly and Dr Theodore Roumel.*

During the afternoon, delegates attended round-table discussion groups with representatives from the Clinical Research Support Centre (CRSC), **HSC Innovations**, the R&D Office, Invest Northern Ireland, NHS Innovation Hubs from England and

Delegates at one of the round-table discussion groups.

BioBusiness Northern Ireland.

At the launch event **HSC Innovations** signed two Memoranda of Understanding. The first between **HSC Innovations**, the **HSC R&D Office** and **BioBusiness NI**, recognises the importance of co-operation between Northern Ireland's life and health technologies industry and health and social care organisations and will support technology and knowledge transfer between businesses, clinicians and researchers wishing to collaborate. Dr Michael Neely, Operational Director of the HSC R&D Office stated:

"The Memorandum of Understanding between the organisations is an important step to support the clinical/industry engagement and to recognise, respect and reward the relevant stakeholders."

Drs Michael Neely, David Brownlee and Peter Donnelly pictured signing the Memorandum of Understanding

The second memorandum of understanding was signed by **HSC Innovations** and **Exomedica.** Exomedica is a developer and funder of early stage medical technology innovation. As part of this agreement, Exomedica have agreed to make up to £1 million available over three years to progress healthcare technologies arising from Northern Ireland's health and social care organisations. Funding may be awarded to technologies which are supported by **HSC Innovations** and which fulfil Exomedica's selection criteria. Speaking at the launch event Andrew Newell, Managing Director of Exomedica indicated:

"**Exomedica** is delighted to enter into this understanding with HSC Innovations. We have been most impressed with the vibrancy of the research effort into life sciences innovation in Northern Ireland and we are confident that there will be opportunities to fund world class technologies. The role of **HSC Innovations** will be vital to commercialising innovation and it is for this reason that **Exomedica** has made a priority of providing financial support."

In addition to the funding which may be available through Exomedica, **HSC Innovations** has a Technology Development Fund, which is available to support the advancement of healthcare technologies within health and social care organisations in Northern Ireland. The fund is available to all HSC employees and may be used to support the costs associated with progressing new healthcare products, for example securing intellectual property protection, manufacturing prototypes, obtaining market research or conducting bench and clinical studies. Up to £25,000 may be awarded to any one technology. This is an open call and applications may be submitted at any time. Application forms and more information about the fund are available from the **HSC Innovations** team, by emailing innovations@crsc.n-i.nhs.uk or telephoning 028 9063 5794.

For more information about HSC Innovations and any of the services we offer, please see our website www.crsc.n-i.nhs.uk/innovations or contact us by email innovations@crsc.n-i.nhs.uk or telephone 028 9063 5794.

Andrew Newell and Dr David Brownlee signing the Memorandum of Understanding

Do you have an idea for a new healthcare product?

If so, please contact us:
innovations@crsc.n-i.nhs.uk

Education and Training – Bursary Scheme 2007

Successful List First Round – June 2007

Applicant	Course Title & Modules for Funding
Madden, Ms Jennifer	MSc in Health Science (Podiatry) • Clinical Research Techniques • Research Project/Dissertation
Bleakley, Ms Catharina	MSc in Nursing • Qualitative Research Methods • Applied Research Methods and Statistics in Nursing • Research Project/Dissertation
Campbell, Mrs Bernadette	MSc in Nursing • Qualitative Research Methods • Applied Research Methods and Statistics in Nursing • Research Project/Dissertation
O'Reilly, Mrs Monica	MSc in Health Sciences • Clinical Research Techniques • Research Project/Dissertation
McLarnon, Ms Teresa	MSc in Health Sciences • Research Project/Dissertation
Ogle, Mrs Heather	MSc in Health Studies • Research Project/Dissertation
McKernan, Miss Sinead	MSc in Nursing • Research Project/Dissertation
Tierney, Mr Paul	Masters of Clinical Research • Clinical Research Techniques • Evidence based Healthcare • Information and Communication Skills • Research Policy and Resources • Research Project/Dissertation
Donnelly, Mrs Rosemary	M Phil - A feasibility study of pharmacist independent prescribing in a primary care setting • Research Project/Dissertation
Byrne, Mrs Bronagh	MSc in Nursing • Qualitative Research Methods • Applied Research Methods and Statistics in Nursing • Research Project/Dissertation

Applicant	Course Title & Modules for Funding
Maghie, Miss Alison	MSc in Nursing • Qualitative Research Methods • Applied Research Methods and Statistics in Nursing • Research Project/Dissertation
Watters, Mrs Margaret	MSc in Nursing, Advanced Practice Pathway • Qualitative Research Methods • Research Project/Dissertation
Borland, Ms Rema	MSc in Nursing - Advanced Practice Pathway • Qualitative Research Methods • Research Project/Dissertation
Cook, Ms Paula	Masters in Midwifery • Research Project/Dissertation
Killick, Mr Campbell	Short period of research training - Factorial survey data analysis
Eddis, Mrs Yvonne	MSc in Nursing • Applied Research Methods and Statistics • Qualitative Research Methods • Research Project/Dissertation
O'Brien, Ms Clodagh	MSc in Health Sciences • Research Project/Dissertation
Brunton, Miss Aishleen	Masters of Science – Nursing • Qualitative Research Methods • Research Methods and Statistics • Research Project/Dissertation – not requested but assumed
McCrory, Miss Lynne	Masters of Science – Nursing • Qualitative Research Methods • Research Methods and Statistics • Research Project/Dissertation – not requested but assumed
Gracey, Mr Michael	MSc in Nursing • Applied Research Methods and Statistics in Nursing • Qualitative Methods • Research Project/Dissertation

Education and Training – Bursary Scheme 2007

Successful List Second Round – November 2007

Applicant	Course Title
Mr Aidan Campbell	MSc in Psychological Research Methods • Ethnography • Dissertation
Ms Jane Hicks	MSc in Nursing • Applied Research Methods & Statistics in Nursing
Miss Kelly Lamont	Masters of Clinical Research • Information & Communication Skills • Research Policy & Resources • Evidence based Healthcare • Dissertation
Mrs Tracy Martin	MSc in Nursing • Applied Research Methods & Statistics • Qualitative Research Methods
Dr Emma Borthwick	MPhil: Interventions for acute renal failure in an Intensive Care Unit setting • Dissertation
Mrs Ruth Finn	MSc in Nursing • Dissertation
Ms Catherine Lee	Masters in Applied Behaviour Analysis • Dissertation

2008 Doctoral Fellowships – Successful

Research Title	Name
Clinical	
2008 Doctoral Fellowships: Suppressor of cytokine signalling 3 (SOCS3) in the pathogenesis of atopic dermatitis (AD).	Cooke, Dr Nicola
2008 Doctoral Fellowships: The role of intracellular signalling pathways in the development of myeloproliferative disorders.	Arnold, Ms Emma Claire
2008 Doctoral Fellowships: A Trial of Micronutrient Supplementation in Patients with Heart Failure.	McKeag, Dr Nicholas A
2008 Doctoral Fellowships: Nasal epithelial ion transport as a non-invasive surrogate measure of alveolar epithelial ion transport and fluid clearance in ALI/ARDS.	Mac Sweeney, Dr Rob
2008 Doctoral Fellowships: Prognostic Significance and Apoptosis Sensitization of BAX and BAK double immunonegative Non-Small Cell Lung Cancer.	Paul, Dr Ian
2008 Doctoral Fellowships: A systems biology approach to define pathways of 5-FU/ Oxaliplatin resistance in colorectal cancer.	Turkington, Dr Richard
2008 Doctoral Fellowships: New Molecular insights into the progression of Malignant Melanoma.	Roche, Dr Muireann
2008 Doctoral Fellowships: The renin-angiotensin-aldosterone (RAAS) axis, endothelial function and hypertension: diagnostic strategies, and therapeutic role of potassium supplementation.	Graham, Dr Una
2008 Doctoral Fellowships: Effect of increased fruit and vegetable consumption on psoriasis severity, and psoriasis-related quality of life - a pilot randomised intervention study.	Devereux, Dr Clare
2008 Doctoral Fellowships: Effect of HMG Co-A reductase inhibition on endothelial dysfunction, bioavailability of tetrahydrobiopterin (BH4) and functional regulation of endothelial nitric oxide synthase (eNOS) in human heart failure.	Lyons, Dr Kristopher
Health & Social Care	
2008 Doctoral Fellowships: A study to develop and evaluate an educational resource in palliative and end-of-life care for specialist palliative care/ learning disability services: promoting collaborative working.	McLaughlin, Ms Dorry
2008 Doctoral Fellowships: A study of factors influencing research outcomes in the Belfast Health and Social Care Trust.	Burns, Ms Frances
2008 Doctoral Fellowships: Defining a pulmonary exacerbation in adults with CF.	Kerr, Ms Fiona
2008 Doctoral Fellowships: Realistic evaluation of the management of long-term sickness absence in two health and social services trusts in Northern Ireland.	Higgins, Ms Angela

National Cancer Institute Cancer Prevention Fellowship Programme – Successful

Name
Dr Paula Hyland

Career Scientist Award 2007

Name	Title
Dr Michael Tunney	Improved detection and treatment of polymicrobial Cystic Fibrosis lung infection

Department of Health Clinician Scientist Award 2007

Name	Title
Dr Cecilia O'Kane	Investigating regulation and effects of Matrix Metalloproteinase secretion in Cystic Fibrosis

Successful Applications for NCI Cancer Prevention Summer Courses 2007	
Applicant	**Course Title**
Dr Estelle McLean	Training Opportunities at the NCI: Molecular Prevention Course
Dr Naomi Pentland	Training Opportunities at the NCI: Molecular Prevention Course
Dr Leeona Galligan	Training Opportunities at the NCI: Molecular Prevention Course
Dr Paula Hyland	Training Opportunities at the NCI: Principles and Practice of Cancer Prevention and Control Course
Dr William Scott	Training Opportunities at the NCI: Principles and Practice of Cancer Prevention and Control Course
Ms Sally Campalani	Training Opportunities at the NCI: Principles and Practice of Cancer Prevention and Control Course

2007 Joint Research Projects in Cancer – Successful

Department of Health Clinician Scientist Award 2007	
Chief Investigator	Title
Professor Ken Mills	Common Genetic Variants as Predictors of Susceptibility and Outcome in Adult AML
Dr Dean Fennell	Molecular Mechanisms underlying Sensitivity and Resistance to the 20S Proteasome Inhibitor Bortezomib in Mesothelioma
Professor Liam Murray	Investigation of the roles that antioxidant and iron status may play in the development of oesophageal adenocarcinoma and its precursor states

NILS 2007 – Successful Applicants

Successful Applications for NCI Cancer Prevention Summer Courses 2007	
Dr Patrick McGregor	NILS 2007: Predicting Short Run Changes in Fertility in Northern Ireland
Professor John Pinkerton	NILS 2007: A study of the feasibility of combining NILS and Social Services Care Administrative and Records Environment (SOSCARE) data to identify and profile children and families with long term and complex needs
Dr Dermot O'Reilly	NILS 2007: Area influences on health: does the extent of community or religious segregation matter?
Professor Ciaran O'Neill	NILS 2007: An exploratory analysis of child dental health and use of dental care services in Northern Ireland
Dr Dermot O'Reilly	NILS 2007: The socio-economic and cultural influences on the perception and reporting of self-reported health in Northern Ireland
Dr Dermot O'Reilly	NILS 2007: A comparative study of the relationship between deprivation and health status in Northern Ireland and Scotland
Professor Helen Dolk	NILS 2007: Lone mothers at time of birth: who are they? An exploration of their socio economic and household characteristics
Dr Dermot O'Reilly	NILS 2007: Individual, household and area variations in alcohol related deaths in Northern Ireland
Dr Ian Shuttleworth	NILS 2007: Describing and Modelling Internal Migration in NI 2001-2006 using the NILS: Individuals, Households and Places

NORTHERN IRELAND VIRTUAL TISSUE

From Glass Slides To Bits And Bytes

Professor Peter Hamilton,
Professor of Quantitative Pathology, QUB

The Northern Ireland Virtual Tissue Archive (NIVTA), part funded by the HSC R&D Office, will establish for the first time a regional archive of digital scans of tissue samples associated with clinical trials, biobanking and translational research.

This archive will form a key step in facilitating collaborative research between laboratories worldwide. Translational research relies heavily on the storage and analysis of human tissue samples, either taken routinely in the form of biopsies and surgical resections, or collected prospectively as part of a controlled experiment or clinical trial and possibly processed as a tissue microarray (TMA) for high throughput biomarker evaluation. The appropriate storage of these tissues/tissue sections and their availability for research and pathological review is essential to the study of disease and forms a core objective of tissue banking and subsequent biomarker discovery in diagnostics, prognostics and drug evaluation.

The volume of glass slides generated for any given study are large, making them awkward to store and retrieve for analysis. In addition, valuable research material in the form of glass slides are difficult to transport, are easily broken or lost and can only be viewed in one location at any one time.

NIVTA, based in the new £2.3 million QUB Bioimaging facility, will overcome this problem by producing high resolution digital scans of slides which can be viewed on-line using a computer monitor in much the same way as a standard glass slide. This is called virtual microscopy and allows digital archiving and electronic sharing of tissue sections and TMAs. Microscopic slides digitally stored as part of a biobank or clinical trial or biomarker study can be viewed by researchers anywhere in the world and at anytime opening up enormous opportunities for sample sharing, collaborative investigation and on-line tissue analysis, not previously available. Virtual microscopy also has a big role in fast-tracking biomarker evaluation using on-line scoring of tissue samples and TMAs. If experts are not available locally, virtual microscopy can be used to deliver tissue samples "virtually" to anyone, anywhere in the world at anytime – and at a fraction of the cost that it would take to ship them physically. These virtual slides can then be evaluated on-line and diagnoses, biomarker scoring and tissue based analysis stored for centralised review. This facility could also increase the capability and productivity of local pathologists who have responsibility for reviewing tissue samples. NIVTA has adopted PathXL™ as the means to deliver, manage and view virtual slides on-line, a product developed by a local Northern Ireland company i-Path Diagnostics Ltd. This new initiative has been made possible by a number of partner organisations working together. These include: Queen's University Belfast; Hewlett Packard; HSC R&D Office and i-Path Diagnostics.

Essential to the success of the initiative is the management of the enormous volumes of virtual slides that will be generated. NIVTA has just appointed Dr Alan Lyons to manage the facility and support the wide range of projects that will benefit from the unit.

The establishment of NIVTA has already spawned a number of new research initiatives. A unique partnership with Hewlett Packard and i-Path Diagnostics will provide the scanning, storage, software and on-line delivery capabilities to support digital tissue archiving and on-line TMA analysis. Hewlett Packard are also supporting the recruitment of 3 PhD students over the next 3 years. These students will carry out further research into the use of virtual tissue archiving for tissue banking as well as routine clinical diagnosis. In addition to having two top of the range tissue scanners, additional funding is being provided by the Centre for Cancer Research and Cell Biology to support the purchase of a 3-D fluorescent tissue scanner allowing cytological preparations and fluorescent samples to be scanned opening up the entire spectrum of opportunities for Northern Irish researchers.

The Institute Of Bids Farewell to **Rosemary Kilpa**

In October 2007 Rosemary Kilpatrick left Queen's University Belfast (QUB) to take up a Chair in Childhood and Youth Studies at Liverpool Hope University. The R&D Office, along with colleagues from the ICCR, would like to pay tribute to Rosemary, as an acknowledgement of the considerable successes accomplished by the Institute while she was at the helm and to say a big thank you for the contribution she made while Director.

Rosemary's tenure spanned an important stage in the life of the ICCR. A major landmark was the successful completion of the second phase of the rigorous quinnenial review of the unit. A result of much hard work by Rosemary, this culminated in all three large scale projects being accepted and officially started. She also steered the Institute through its successful move into the School of Sociology, Social Policy and Social Work. Despite considerable organisational change, Rosemary still found time to pursue her interests with characteristic vigour and dynamism and was successful in winning a contract to conduct research for the Social Care Institute for Excellence (SCIE) in collaboration with the University of Bristol and the National Children's Bureau as well as being continually engaged with the School of Education in QUB working on an Economic and Social Research Council (ESRC) funded project on multi agency working.

Through her deft and purposeful stewardship Rosemary ensured that ICCR maintained its reputation as a serious player among research centres nationally and internationally. This she achieved through her work to galvanise the ICCR's connections with ChildWatch International and the International Children's Policy Research Network, coordinated by Chapin Hall, with participating centres in South Africa, Ireland, England, Jordan, Norway, Brazil, South Korea, India and Israel. Closer to home, Rosemary worked hard to maintain and further develop connections with the Children's Research Centre in Trinity College Dublin.

Rosemary's considerable experience as a practitioner, a contract researcher and an academic resulted in her acquisition of a unique portfolio of interests. These have contributed to her strong recognition of the benefits brought by a range of disciplinary, sectoral and professional perspectives.

Perhaps fittingly, Rosemary's term as Director was characterised by the fruitful collaboration between ICCR staff and colleagues from other areas. This is evident in so many ways, examples include the work of the Growing Up research team, who under Rosemary's direction learned to work very effectively alongside colleagues from child health and speech and language therapy on a range of projects. And by the fact that Rosemary alongside colleagues from ICCR was instrumental in the founding of the Child Care Research Forum, a now thriving initiative which brings together those with a common interest in child care research from different academic institutions, NGOs and statutory organisations with a broad range of professions represented, including social care, psychology, education and nursing.

Rosemary has always pursued her interests with vitality and she was truly instrumental

Child Care Research (ICCR) Director **trick**

Dr Kathryn Higgins
ICCR, Queen's University Belfast

in fostering a research culture within ICCR and the wider School that can embrace many traditions and approaches. An important legacy left by Rosemary was the development of the Doctorate in Childhood Studies, the DChild, which for the first time this Autumn saw students coming to study at Queen's in a new and exciting multi-disciplinary addition to the School's doctoral degree programme. Rosemary was keen to develop a means for experienced professionals who either work with, or have an interest in children and young people to further their studies and professional development whilst still retaining their current jobs. More generally, Rosemary's many doctoral students valued the time she gave to them, her capacity to listen, and her willingness to engage with new ideas.

Rosemary remains an extreme optimist with an infectious and insightful understanding which sparks creativity in others. We wish her all the very best for her future career.

Rosemary Kilpatrick

HAVE YOU TWO MINUTES TO SPARE?

Gemma Healy
Information Scientist
NLH Cancer Specialist Library

The National Library for Health (NLH) is an online gateway providing access to a wide range of health resources and high quality health information. As part of the NHS, the NLH is targeted for use by UK health professionals - although the majority of resources and information are freely available to everyone. The mission of the NLH is to ensure that high quality knowledge is accessible to all and embedded at the centre of patient care.

A comprehensive collection of information resources are available via the NLH website including The Cochrane Library, Clinical Knowledge Summaries, the British National Formulary (BNF) and the Research Findings Register (ReFeR). In addition, access is provided to an impressive range of bibliographic databases including Medline, EMBASE and CINAHL as well as over 1200 electronic free full text journals. All content on the NLH website can be searched or browsed.

The NLH offers innovative information services including Hitting the Headlines:- This evaluates health-related stories that appear daily in the media for credibility and accuracy. There is also a primary care Q&A service, whereby users can post clinical queries and receive evidence-based answers within a rapid turnaround. Really Simple Syndication (RSS) Feeds are available and users can log-in to the NLH website to customise their library space.

In addition to the main parent site, the NLH also offers access to 29 online, freely available Specialist Libraries, such as the Cancer Specialist Library (www.library.nhs.uk/cancer). The aim of the Specialist Libraries is to ensure that relevant high quality knowledge (e.g guidelines and systematic reviews), are easily accessible to their communities of practice. This ensures that health professionals can keep on top of the burgeoning amounts of literature coming out in their specialty and that they have access to the most reliable evidence for their healthcare questions.

The NLH Specialist Libraries are also involved in the production of National Knowledge Weeks (NKWs) which have taken their communities of practice by storm. NKWs focus on an important health condition for one week during the year, e.g. lung cancer (http://www.library.nhs.uk/cancer/Page.aspx?prv=y&pagename=LCA07INT), and highlight good quality new knowledge as well as providing user-friendly summaries written by relevant experts. Each NKW is updated on an annual basis and is launched to coincide with a relevant health event. A calendar of NKWs for 2008 will soon be available on the NLH website at http://www.library.nhs.uk/forlibrarians/sl.

Roundup: The National Library for Health and the 29 online Specialist Libraries provide free access for all, to a wide range of health resources and

Try out the National Library for Health's website (**www.library.nhs.uk**) for the health information you need

high quality health information. Information services such as the National Knowledge Weeks help health professionals keep on top of the burgeoning amounts of literature published every day in the biomedical sciences. On your next coffee break why not tryout the site: www.library.nhs.uk.

FIRST RESEARCH to Show that Diabetes Damages Sperm DNA and May Affect Fertility

Recent research from Queen's University and the Royal Victoria Hospital, has revealed that diabetes may have a hitherto unrecognized effect on male fertility. Dr Ishola Agbaje, an HSC R&D Office funded doctoral research fellow working in the Reproductive Medicine Research group at Queen's University in close collaboration with the Regional Endocrinology and Diabetes Centre at the Royal Victoria Hospital, has, under the supervision of Professors Neil McClure, Sheena Lewis, Brew Atkinson and Dr Con Mallidis been studying the effects of this common endocrine disorder on various aspects of male fertility.

The incidence of diabetes is increasing rapidly worldwide. Dr Agbaje said: "If the increasing trend in the incidence of diabetes continues, many more men will be affected prior to and during their reproductive years." Infertility is already a major health problem, with over one in six couples requiring specialist investigation or treatment, to conceive. The last 50 years has also seen a decline in sperm quality with a male factor causing or contributing to infertility in around 50% of couples. Whether there is any link between the decreasing male fertility and the increasing incidence of diabetes is unknown and diabetes is not seen as a particularly relevant issue in fertility clinics.

In a study published in Human Reproduction earlier this year [1] the Belfast group found higher levels of DNA damage in sperm from diabetic men. Dr Agbaje, said: "As far as we know, this is the first report examining the quality of DNA in the nucleus and mitochondria of sperm in diabetes. Our research shows increased levels of sperm DNA damage in diabetic men. From a clinical perspective this is important, particularly given the overwhelming evidence that sperm DNA damage impairs male fertility and may be associated with miscarriage and some childhood diseases."

Working as part of the Recognised Research Group in Endocrinology, Diabetes & Nutrition, Dr Agbaje and his colleagues have had a unique opportunity to conduct other collaborative studies within Queen's University, including Vision Sciences, (to examine the potential role of Advanced Glycation End-Products in diabetic associated sperm DNA damage), Respiratory Medicine (to examine oxidative sperm DNA damage) and the Department of Agri-Food & Land Use (metabolomic approach to determining metabolic changes in the diabetic testis).

Dr Ishola Agbaje
Reproductive Medicine Research Group
Queen's University Belfast

The Group have also been involved in international collaborations. Earlier this year, with cohesion funding from the RRG in Endocrinology, Diabetes & Nutrition, Dr Agbaje spent time with Prof Steve Krawetz, Charlotte B. Failing, Professor of Fetal Therapy and Diagnosis at Wayne State University in Detroit, conducting experiments examining gene expression profiles in sperm from diabetic men. Professor Krawetz's group have established a gene expression profile for sperm from fertile men using micro-array technology. Dr Agbaje said "In addition to learning new techniques, this collaboration gave us the unique opportunity to evaluate changes in the gene expression profiles of sperm in diabetes and thus gain further insight into the underlying effects of diabetes."

Dr Agbaje has presented his work both nationally and internationally and was awarded the best young clinician prize at the British Fertility Society Annual Meeting in 2006. The results of these studies have also been published in Human Reproduction, Reproductive Biomedicine Online and the International Journal of Andrology. The work also attracted international media interest following a press release by the European Society for Human Reproduction & Embryology in May of this year.

Dr Agbaje concludes, "It is not possible to say from these studies whether the DNA damage caused by diabetes impairs male reproductive health." The results do, however, highlight a possible concern. "Diabetes is an important global health problem and given the rise in prevalence of diabetes, this is an area of diabetic research that has been neglected to date and warrants further exploration."

1. Agbaje, I. M., Rogers, D. A., McVicar, C. M., McClure, N., Atkinson, A. B., Mallidis, C., and Lewis, S. E., Insulin dependant diabetes mellitus: implications for male reproductive function. Hum Reprod, 2007. 22(7): p. 1871-7.

Obituary for Professor Eithne McLaughlin

Professor Robert Stout, Director of Research & Development, HSC

The HSC R&D Office was very sorry to learn of the death at an early age of Professor Eithne McLaughlin, Professor of Social Policy in Queen's University Belfast. Professor McLaughlin was a distinguished social scientist with an international reputation for social policy research. Her research covered areas such as unemployment, social security policies, poverty and inequalities. She was also a member of many public bodies including the Board of Trustees of National Museums Northern Ireland, non-executive Director of the Eastern Health and Social Services Board and Northern Ireland member of the Social Security Advisory Committee of the Department of Social Security London. She had been associated with the HSC R&D Office from the beginning, first as a member of the original education & training evaluation panel, then Deputy Director of the Institute for Childcare Research and latterly as Vice-Chair of the Northern Ireland R&D Forum, the body which facilitates and encourages the research community to interact and contribute to the vision and working of the HSC R&D Office. In her capacity as Vice-Chair she was a source of valuable advice to the development and implementation of the HSC R&D Strategy. We send our condolences to her family, her colleagues and her friends.

RESEARCH LEAVES YOU BREATHLESS ...on Mount Everest

Dr Nigel Hart, Public Health
Medicine & Primary Care
Queen's University Belfast

Standing on the summit ridge of Mount Everest (8848m/29029ft) as the sun rose at 5am on the 23 May 2007, after seven and a half breathless hours battling near-exhaustion, and with a successful summit looking increasingly likely, a thousand thoughts raced through my mind; among them was the sense of privilege to be playing a role in such a unique research enterprise. Between 17 March and 15 June 2007 I played my part as an invited member of the unparalleled Caudwell Xtreme Everest(CXE)[1] expedition, an altitude research expedition that would take us all the way to the summit of Mount Everest with the aim of furthering knowledge about the mechanisms of adaptation to hypoxia. The expedition, organised by CASE (Centre for Altitude, Space and Extreme Environment), University College London was some 4 years in the planning and comprised 7 laboratories (between Kathmandu and Everest South Col (7950m), 10 exercise bikes and breath by breath gas analyzers, 40 Xtreme team researchers and subjects, 96 tents, 204 trekkers, 450 60 litre barrels, 2100m of wiring, 15000 blood samples, 26500kg equipment and a budget of £2M. Summiting Everest was never the primary objective but was always secondary to completion of the research goals further down the mountain.

The research was based on the assertion that cellular hypoxia is a fundamental mechanism of injury in the critically ill[2]. However, heterogeneity of pre-morbid state, presenting injury, evolving critical illness, and complex interventions are typical of any group of critically ill patients making the isolation and study of the effect of a single variable, such as hypoxia difficult. In addition to this there are considerable difficulties obtaining consent or assent for studies in this vulnerable group of patients. The novel approach taken by CXE was to study healthy individuals exposed to a homogeneous environmental hypoxic challenge such as that presented by Everest where atmospheric pressure and thus oxygen availability on the summit is one third that of sea-level. The ultimate hope is that knowledge gained might contribute to the development of novel therapies for critically ill patients so that individuals who adapt poorly to hypoxia might be treated to mirror the responses of those who adapt well.

At 6.30am on 23 May, in a glorious sun-rise, after painfully slow progress over the Hillary step and along the final stages of Everest's summit ridge we arrived on top of the world exhausted but elated. It is certainly surprising where an interest and involvement in research can take you.

1. Caudwell Xtreme Everest. Available at: www.xtreme-everest.co.uk. , 2008.
2. Grocott M, Richardson A, Montgomery H, Mythen M. Caudwell Xtreme Everest: a field study of human adaptation to hypoxia. Crit Care 2007;11(4):151.

NORTHERN IRELAND'S CLINICAL TRIALS UNIT

Dr Karen Bailie,
Clinical Research Support Centre,
Belfast

The Clinical Research Support Centre (CRSC) is now recognised by the UK Clinical Research Collaboration as a high quality Clinical Trials Unit (CTU).

It is now the **only** facility in Northern Ireland that has in place the **full range of expertise and systems** required to conduct high quality clinical trials in compliance with the required regulatory standards.

The UK Clinical Research Collaboration

Established in 2004, the UK Clinical Research Collaboration (UKCRC) is a partnership of organisations working together to establish the UK as a world leader in clinical research by harnessing the research potential of the National Health Service. The Partners include the key stakeholders that shape the health research environment, including research funders, the NHS, Departments of Health, industry, academia, regulators, charities and patients. (http://www.ukcrn.org)

Registration of UK Clinical Trials Units

A successful clinical trial requires the participation of patients, clinicians, and researchers in a well co-ordinated team effort over sometimes considerable periods of time. CTUs are specialist centres that are responsible for ensuring that the necessary skills, people and procedures are employed in the conduct of a trial. A CTU will typically employ statisticians, data managers and information technology specialists as core staff, and will liaise closely with clinical colleagues and sponsors in the development and conduct of clinical trials.

To contribute to the improvement of the quality and quantity of available expertise to carry out clinical trials in the UK, specialist units with the requisite expertise were invited to apply for registration as a UKCRC Trials Unit. Some forty CTUs across the UK successfully went through this registration process.

The CRSC achieved provisional registration in a robust process that involved satisfying an international panel of experts that the Centre had the appropriate expertise, processes and track record to design, co-ordinate and analyse multi-centre clinical trials, ensuring that they are conducted in line with appropriate standards and regulations. This expertise has allowed the recognition of a partnership between CRSC and the Northern Ireland Cancer Clinical Trials Unit (NICCTU) as additional specialist cancer CTU.

The CRSC has established a portfolio of 15 active clinical trials addressing a variety of important questions in the areas of cancer, critical care, diabetes, ophthalmology, paediatrics and rheumatology. We will now be concentrating on developing further studies, working with investigators from Northern Ireland, the rest of Ireland and the UK, to build our portfolio and track record.

The Clinical Research Support Centre

The CRSC was established in 2002 with a remit to provide methodological expertise and training in support of clinical research, including the coordination of multicentre clinical trials. The Centre now brings together in one setting, a unique, interactive grouping of professional staff with expertise in a range of disciplines underpinning high quality clinical research including: clinical practice, epidemiology, statistics, health economics, data management, trial management and intellectual property management, all supported by dedicated computing and administrative staff.

Functional capability as a CTU complements and enhances the wider CRSC role in supporting high quality clinical research in Northern Ireland through its:

- **Study design service** – experts in research methods ensure the application of appropriate, robust study designs in the planning of clinical studies, including clinical trials
- **Regulatory advice service** – up to date guidance on the content and interpretation of the regulations impacting on the conduct of clinical research in health and social care services
- **Study monitoring service** – ensuring that studies are set up, conducted and completed in accordance with the approved protocol and pertinent regulations
- **Intellectual property management service** – ensuring that intellectual property arising from health and social care research and practice is appropriately managed for the benefit of patients, staff and services
- **Training programme** - covering a broad range of topics and issues in clinical research – contributing to building interest and capacity within the health and social care services to understand, use and participate in clinical research

What does this recognition mean for Northern Ireland?

The expansion of the CRSC team as a result of increased diversity in, and demand for, research support services is testimony to the importance placed on access to this expertise by its principal funder the HSC R&D Office, and the research community.

Recognition of the CRSC through the UKCRC CTU registration process is a further endorsement of the expertise and effort that our staff have made in developing this facility for Northern Ireland; and provides researchers with the reassurance that the CRSC has the capability to support high quality clinical trials across a diverse portfolio, including cancer.

It is anticipated that having the input and backing of a recognised CTU will be an advantage (if not a prerequisite) in seeking funding for future clinical trials, especially larger multicentre trials that require more sophisticated coordination and quality assurance procedures.

We would like to invite researchers in Northern Ireland considering proposals for clinical trials who wish to avail of our CTU facility to contact us at the earliest opportunity. Development of an idea to a fundable proposal can take several months to ensure that the best possible design and appropriate organisational arrangements are proposed and detailed in any protocol; therefore an early contact is essential in achieving a high quality proposal.

We look forward to supporting and adding value to your research

Contact details

Clinical Research Support Centre
Education & Research Centre, Royal Hospitals
Belfast. BT12 6BA

Tel: +44 (0)28 9063 5794
Email: info@crsc.n-i.nhs.uk
Fax: +44 (0)28 9063 3328
Web: http://www.crsc.n-i.nhs.uk

R&D OFFICE CONFERENCE 2007 POSTER PRIZE

Carole McIlrath,
Senior Professional Development Officer at the Royal College of Nursing in Belfast

Carole McIlrath, Senior Professional Development Officer at the Royal College of Nursing in Belfast recently received the poster prize at the first HSC R&D Office Conference 26 September 2007. Her research which focussed on the identification of benchmarks for an effective primary care based nursing service for adults with depression is described below.

Depression can be devastating to any sufferer. It is the most diagnosed form of all mental illnesses, so much so that it is often referred to as the common cold of psychiatry. At any point in time it is estimated that as many as one in six people in Northern Ireland suffer from this life threatening condition, which is often accompanied by suicidal thoughts.

GPs are in the best position to provide early detection of depressive symptoms; however research demonstrates that up to 50% of depressive type illnesses go undetected. It has been suggested this is due to many competing demands on GPs' time leaving them unable to provide a full commitment to this clientele. Other studies have demonstrated a lack of training and education for GPs with regard to mental health care. Regardless of the reasons, the high prevalence threatens to overstretch GPs unless support can be provided by other professionals.

Primary care nurses, including practice nurses, nurse practitioners, health visitors and district nurses, are becoming more involved in identifying, assessing and caring for people with depression. Nonetheless, there appears to be little ring fenced time allocated for this work, with evidence suggesting that they are also often untrained and unsupported. Community Psychiatric Nurses have been selected to work with GPs; however recent policy dictates that they focus on the severely mentally ill. No consensus currently exists on what standards, guidelines or benchmarks constitute an effective primary care based nursing service for adults with depression.

To address this gap Carol, through an HSC R&D Office Education and Training Fellowship Award, has recently conducted research aimed at identifying appropriate benchmarks for effective nursing services in primary care for adults with depression. The study used a two phased design employing a qualitative methodology. Phase one employed a Delphi survey completed by a UK multi-professional expert panel. The panel included representation from GPs, psychiatrists, practice nurses, nurse practitioners, health visitors and CPNs. Forty nine benchmarks were identified by panel members under three sections (structures, processes and outcomes). This included benchmarks related to organisational structures, services, knowledge, skills and roles, training and education, protocols and guidelines, career development, multi-disciplinary and partnership working, care planning, screening and assessment, treatments and interventions, referral systems, documentation and record keeping, audit and evaluation and uptake of services.

Phase two involved comparing these benchmarks with existing services in Northern Ireland to identify areas for practice/service improvement. Interviews were conducted with GPs, practice

managers, practice nurses, nurse practitioners, health visitors and CPNs from eight primary care practices. Findings from this phase demonstrated that 63% of practice nurses did not view depression care as part of their role. Three quarters of GPs also supported this view. All practice nurses and nurse practitioners reported that although they would welcome a role in the management of depression, current primary care nurse staffing levels were inadequate to enable involvement. Most reported that they did not feel competent in completing an assessment to determine if a patient was suffering from depression. Practice nurses also felt they had little autonomy over their involvement in the management of depression. Most GPs and CPNs felt strongly that the levels of CPNs aligned to primary care were inadequate to ensure early recognition, assessment and treatment of depression. CPNs also reported that they had not received adequate evidence based training and experience. Most health visitors felt they would also benefit from additional training in relevant psychotherapeutic interventions and that this would increase their confidence and competence.

The findings from this study have implications for policy makers, commissioners, educationalists and service providers within the HSC in Northern Ireland. Government policy has highlighted the need to develop primary care mental health services. The Local Health and Social Care Groups and the new GMS contract are ideal vehicles for developing primary care depression services, some of which could be nurse-led. Nonetheless, existing gaps in the role, knowledge and training of primary care nurses involved in the management of depression must be addressed. These benchmarks will help to develop, support and guide the practice of these nurses in the foreseeable future.

Carol McIlrath is writing up her PhD thesis for submission to the University of Ulster. The supervisors for this project are:
Professor Hugh McKenna, Dean, Faculty of Life & Health Sciences
Dr Derek McLaughlin, Lecturer in Nursing
Dr Sinead Keeney, Senior Research Fellow

NEW CENTRE OF EXCELLENCE FOR PUBLIC HEALTH

Professor Frank Kee,
Queen's University Belfast

The HSC R&D Office is delighted with the announcement that Northern Ireland had been successful in winning £5M to support a new Centre of Excellence for Public Health.

The Centre, led by Professor Frank Kee of Queen's University, in partnership with the Institute of Public Health in Ireland is one of five such Centres across the UK.
The Centre, along with the other four successful Centres based in Newcastle, Cardiff, Cambridge and Nottingham will bring together leading experts from a range of disciplines working in partnership with practitioners, policy makers and wider health issues which are likely to have significant impact on the health of the nation.

The £20M investment for the Centres of Excellence has been provided by a partnership of funders under the auspices of the UKCRC. The Partners include the HSC R&D Office, the Economic and Social Research Council, the British Heart Foundation, Cancer Research UK, Medical Research Council, National Institute for Health Research, Wales Office of Research and Development - Welsh Assembly Government, and the Wellcome Trust. The funding will be provided to each centre over a 5-year period to create new academic posts and develop strong training and career development programmes. The funding will also provide the technical staff, IT systems, equipment, administrative support, research facilities and other infrastructure needed to support high quality research.

Professor Frank Kee of Queen's, who led the bid said: "The Centre will help Queen's and our partners to make a tangible difference to the wellbeing of the community. This will be central to its mission. The Centre boosts our capacity to not only research the cause of health inequalities and increases our ability to ensure this research meets the needs of policy-makers, practitioners and the public we serve."

Professor Bob Stout stated that "The funders involved in this initiative are committed to funding high quality research which will lead to improvements in the health and wellbeing of the population. I am delighted that Belfast has been successful in winning one of these extremely prestigious awards. The Centre will bring together a diverse range of experts and strengthen research into key public health issues such as obesity, diet and smoking. This will ultimately lead to improvements in health for the population in Northern Ireland and in the rest of the UK and Ireland. I would like to congratulate all the team involved in their success."

Dr Jane Wilde, Director of the Institute of Public Health in Ireland said "We are delighted with today's news and we are looking forward to help build a new type of Centre linking public health research more strongly with policy. Our research programme extends from molecules to populations. It is the creative collaborations between many partners from research, policy and practice who have come together because of our determination to make a difference to health in Northern Ireland and elsewhere."

The success also drew support from the Office of the Chief Medical Officer, the Community Development and Health Network, the HSC R&D Office, the Health Promotion Agency and the Discovery Centre W5. The novel involvement of W5 will help disseminate research outputs generated by the Centre of Excellence to the wider public.

R&D today

DESIGNER BREASTFEEDING:
Personal, Powerful and Successful

Dr Janine Stockdale, Institute of Nursing Research, University of Ulster

Ideally mothers should breastfeed their children for the first six months of life, but only a negligible percentage of mothers persist for that duration.

Northern Ireland has both the lowest initial take up of breastfeeding and the poorest duration. According to the Infant Breastfeeding Survey (2005) 63% of Northern Ireland mums began breastfeeding in hospital, compared to 78% in England, 70% in Scotland and 67% in Wales. At six weeks the rate of exclusive breastfeeding was 22% in England compared to 13% in Northern Ireland. At four months the Northern Ireland rate had fallen to 4% compared to 8% in England. However a clinical trial of a programme devised by Ulster researchers and funded under the HSC R&D Office, Doctoral Fellowship scheme, called Designer Breastfeeding, showed that dramatic improvements are possible.

Designer Breastfeeding is a woman-centered programme designed to increase women's control and confidence while breastfeeding. It achieves this by simply turning breastfeeding problems into normal conquerable breastfeeding challenges.

A total of 144 women who had their first baby took part in the trial at the Ulster Hospital maternity unit. They were split into two groups – one taking part in the Designer Breastfeeding programme and the other using the normal support services of the "Baby-Friendly" maternity unit. The results showed that 82% of those taking part in the new programme began breastfeeding, compared to 70% in the other group. On discharge from hospital 64% of those on the programme were still breastfeeding exclusively compared to 44% in the other group and at three weeks the figures were 53% and 20% respectively.

Following a presentation of the research trial at the Royal College of Surgeons in Ireland, the research was awarded the "Greatest Potential Contribution to Health Care" prize. At the Doctoral Midwifery Research Society in February, the Chief Medical Officer, Dr Michael McBride, launched the research summary "Designer Breastfeeding: Personal, Powerful and Successful" (ISBN 978-1-85923-227-9), recommending that this home-grown programme be implemented across maternity units in Northern Ireland.

Designed by Think Creative: info@thinkx2.com

Contact:
R & D Office
12-22 Linenhall Street
Belfast BT2 8BS

Tel: 028 9055 3617
Fax: 028 9055 3674

r&d office