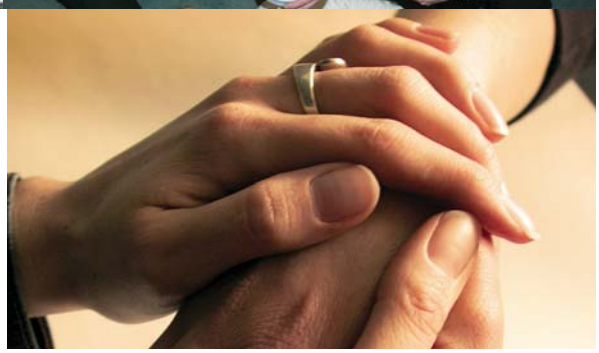


R&D Today
Issue 8 AUTUMN 2006

£10 million boost for health research in Northern Ireland

Dr Michael Neely, Operational Director, Research & Development Office

Issue 7 of R&D Today gave an overview of HPSS Clinical Research in Northern Ireland. It included articles on a number of new initiatives some only at the stage of applying for funding. Over the last few months a number of these bids have been successful bringing in over £10 million to Northern Ireland and helping HPSS R&D advance the prevention and treatment of disease and improve health and social care services. Under the UKCRC Experimental Medicine Initiative Northern Ireland will receive over £4 million to allow the development of a Clinical Research Facility in phase 2 of the new Royal Victoria Hospital. Professor Ian Young who led the consortium bid on behalf of the RGHT, BCHT, QUB and UU talks about the importance of this new facility later in this issue. A second bid for an Experimental Cancer Medicine Centre (ECMC) has also been successful. The ECMC will translate advances in scientific knowledge of cancer into benefits for patients, and brings £1 million of Cancer Research UK funding to Northern Ireland. The R&D Office will match this funding with a further £1 million allowing cancer patients to benefit from improvements in their cancer care and from improvements in the quality of cancer research programmes. An additional £1.5 million has been granted by Cancer Research UK to fund the development of a Northern Ireland cancer clinical trials network. Finally a grant of over £2 million has been secured from Atlantic Philanthropies to establish a Centre for Ageing Research and Development in Ireland. The centre which will be based in the Institute for Public Health in Ireland, will act as a co-ordinating centre for research related to ageing and older people including medical, social, economic and other research. A more detailed article on the centre follows. The Minister for Health, Social Services & Public Safety, Mr Paul Goggins commented "I very much welcome this £10 million boost to funding health research in Northern Ireland. My vision is to put patients at the centre of everything we do. This cutting edge clinical research into life threatening diseases could ultimately lead to life enhancing new technology and treatment for patients. I congratulate the consortium on securing this investment and will take a keen interest on the development and outcome of the research".

r&d office

Clinical Research Facility

Professor Ian Young, Professor of Medicine Dept of Clinical Biochemistry and Director of Research and Development Royal Group of Hospitals

The previous issue of R&D Today, described a bid for a Northern Ireland Clinical Research Facility which was submitted to the UKCRC experimental medicine initiative earlier this year. The outcome of the call was announced early in July and Northern Ireland was one of twelve sucessful UK bids. This is a considerable achievement, and offers a tremendous opportunity to further improve the infrastructure for clinical research in Northern Ireland. A Dublin bid was also successful, and it is hoped that the Northern Ireland CRF will develop close links with the Dublin facility as well as those funded in the rest of the UK.

The award will allow the creation of the Clinical Research Facility in phase 2B of the new development currently taking place on the Royal Group of Hospitals site. The facility will open in 2010, and will include a suite of rooms fully equipped for clinical trial work, with a particular focus on nutrition research, vision science and cancer clinical trials. The unit will therefore complement the Cancer Clinical Trials Unit which has already been established on the Belfast City Hospital site.

The Clinical Research Facility is a joint initiative between the Royal Group of Hospitals Trust and Belfast City Hospital Trust, Queen's University, the University of Ulster and the R & D Office. All of the partners will be represented on a management board to which the Director of the Facility will report. The Clinical Research Facility will work closely with the Clinical Research Support Centre to provide state of the art facilities for clinical research. In addition, it is hoped that the facility will link with the emerging Clinical Research Networks in specific disease areas.

Representatives from the Wellcome Trust will make an initial site visit in November to discuss the project. A formal agreement will be signed between the partner organisations and the development of the CRF will be led by Professor Ian Young, who was the principal investigator on the bid. It is intended that the CRF will be used predominantly to facilitate testing of novel hypotheses, treatments and products in small scale investigator-initiated clinical trials, in line with the concept of experimental medicine. In order to support this type of activity, much of the equipment in the CRF is intended to allow measurement of validated biomarkers and physiological parameters which can be used as endpoints in such trials. The CRF may also act as a central hub for larger scale clinical trials in association with disease specific research networks.

The next few years will be an exciting period for Clinical Research in Northern Ireland, and further updates on the CRF will follow.

Recognised Research Groups (RRGs)

Professor Robert Stout, Director of Research & Development for the HPSS

The concept of Recognised Research Groups (RRGs) was introduced in *"Research for Health & Wellbeing"*, the Strategy for Northern Ireland R&D, published in 1999. The functions of the RRGs set out in the document are:

- to develop a multidisciplinary portfolio of research work
- to co-ordinate research in Northern Ireland in the area of interest to the RRG and provide a forum for information exchange for associated researchers
- to seek external funding for research project proposals from research councils, the EU, medical research charities and other appropriate bodies
- to formulate a portfolio of projects suitable for training and education for the group, taking account of the needs of all professions relevant to the group
- to prepare an annual report on its activities and to participate in dissemination of its research findings

through video conferencing, workshops, seminars, newsletters etc organised by the R&D Office.

The RRGs are a "bottom up" approach to research. Initially, the R&D Office invited declarations of interest by researchers employed by the HPSS, independent contractors or the universities. These were subject to external peer review and those that were considered to be of high quality were invited to put forward full applications. The applications consisted of a portfolio of research projects with an overarching strategy. These were again subject to external peer review and an evaluation panel of external experts chaired by Professor Sir Graeme Catto, then Chief Scientist in the Scottish Home and Health Department, reviewed the applications, the referees reports and the applicants' responses to the reports. The panel considered each project and then looked at the portfolio of funded projects to consider whether there was a sufficient critical mass to form an RRG. The process took place on three occasions and as a result seven RRGs were established, in Cancer, Child Health & Welfare, Endocrinology & Diabetes, Epidemiology, Infectious Diseases, Neuroscience and Trauma & Rehabilitation. There were a number of unsuccessful applications including Cardiovascular Disease, Mental Health and Primary Care. Successful projects in these applications were added to other appropriate RRGs.

The RRGs quickly became established with agreed constitutions and management schemes and have held regular meetings to which all researchers in the relevant areas in Northern Ireland have been invited. Each RRG has received an annual cohesion fund of £35,000 which they use for conferences, training, visits from distinguished researchers - almost anything which support the RRG except the direct costs of research. Successful applications in other parts of the Strategy, including Fellowships and Commissioned Research, have been linked to appropriate RRGs.

In 2004 the R&D Office invited applications for 14 additional projects to be added to the RRGs. This added to the research in each RRG and also allowed new projects to start at a time when some projects were coming to an end.

In 2005 a review of the RRGs was undertaken on behalf of the R&D Office by an independent panel again chaired by Professor Sir Graeme Catto. The review team, which was independent of the R&D Office and from outside Northern Ireland, consisted of members with expertise in each of the subjects of the RRGs and some members with an overall responsibility for NHS R&D. The report of the review was supportive of the R&D concept and felt that the RRGs had been generally successful. The one area in which there was less success was in obtaining external funding from prestigious grant awarding bodies. The panel also felt that the RRGs could be more active in formulating strategies for research and for education and training strategies. The review panel recommended that the RRGs should continue for a further five years and that additional projects should be sought as funding became available when existing projects came to an end.

Accordingly, in July 2005 the R&D Office invited proposals for new projects for the RRGs and initiated for the first time a three stage process for selecting successful applications.

- The Stage One Panel focused on strategic considerations and consisted of those members of the R&D Office Strategic Advisory Group who had no conflicts of interest. The Panel reviewed all of the 52 applications received along with RRG comments on these applications and research themes proposed by the RRGs. Following discussions with the RRG Chairs the forward research themes for each RRG were determined by the Panel. The Panel then considered each application in the context of those research themes. Forty six applications which fitted within the determined research themes went forward to the Stage Two Panel.

- The Stage Two Panel consisted of 15 external experts covering the 7 RRG areas and brought a wealth of experience from academic research and clinical practice and represented a spread of HPSS disciplines and sectors. The Panel also included two Strategic Advisory Group members from the Stage One Panel. Professor Sir Graeme Catto again kindly agreed to chair the process. The Panel considered the applications, the external referees' reports and the applicant's responses to the referees reports. Each proposal was judged against 4 evaluation criteria: innovation and novelty; knowledge of area and understanding of key issues; track record/experience of research team and suitability of environment; and scientific merit. As a result of this process, 26 projects were recommended for funding on scientific grounds

- In Stage Three, the Stage One Panel, together with three representatives from the Stage Two Panel, considered the remaining 26 applications in terms of their contribution to the RRG concept; relevance to the HPPS; and value for money. The Panel recommended that all 26 applications should be funded but suggested a reformatting of the RRGs. In particular, there were now eight applications in the area of Vision and it was recommended that a

new RRG on Vision should be created. It was also felt that the Epidemiology RRG had lost much of its original cardiovascular epidemiology emphasis and that most of the other projects could fit with the remaining RRGs. This would be of advantage to both the RRGs which would have epidemiological input, and to the PI's who would be part of a multidisciplinary group on their subject. Other changes were to re-designate the Endocrinology and Diabetes RRG as Diabetes, Endocrinology and Nutrition and to formally recognise the role of Mental Health in the Neurosciences RRG which is renamed Neuroscience & Mental Health.

These changes recognise the fact that the RRG concept is flexible and that changes can occur reflecting changing research opportunities and research strengths in Northern Ireland. The R&D Office intends to invite applications for further projects to the RRGs in 18 months to two years time.

A number of points arise out of the experience with the RRGs over the last six years:

- As part of the overall R&D Strategy, the RRGs are moving more towards clinical, translational and health & social care services research. This is consistent with the Health Departments' R&D strategies throughout the United Kingdom and the recent emphasis on clinical and translational research in the UKCRC, as well as in other countries worldwide. There are many funding bodies who offer opportunities for funding basic research of high quality but fewer opportunities for funding clinical research.

- We had expected rather more applications for RRG projects than we received. It is not clear why the number was lower than expected and we hope that in the next round there will be a large number of applications particularly from those who do not currently receive R&D Office funding. In the 2005 call for applications, the R&D Office stated *"applications are particularly welcomed from investigators in primary care, prevention, palliative care and public health. Applications are also particularly welcome from those in the allied health, nursing, pharmacy and social care professions and from multidisciplinary teams".* We were disappointed to receive very few applications from these investigators.

- Some of the applications where of disappointingly low quality. In particular, applicants did not seem to have used the opportunities for strengthening their proposals that are available in Northern Ireland. A disappointingly large number of applications had defects in research design, particularly in statistical input and in power calculations. The R&D Office supports the Clinical Research Support Centre with the specific remit of strengthening and improving the quality of applications in clinical research. Clinical research is difficult and expert advice is often very helpful. It is essential that those considering applications should avail themselves of all the advice available and should seek this at a very early stage of the preparation of their applications. The second opportunity that was missed was in collaboration with other experts in Northern Ireland. A number of applications were for research in subjects which were not the direct experience of the applicants and yet they had failed to collaborate with experts who are readily available.

- The R&D Office employs Programme Managers to represent the professions which historically do not have a strong research record, ie AHP, nursing, pharmacy and social care. It was disappointing that applicants from these areas had not always drawn on the assistance that was available.

- The strongest applications often came from collaborations between basic scientists and clinical researchers. Indeed some basic scientists have indicated to us that they welcome the R&D Office's emphasis on clinical research as it has stimulated them to form clinical collaborations.

While the RRGs are a very important part of the HPSS R&D Strategy they are not the only source of research support from the R&D Office and researchers who are not part of RRGs can apply to other schemes. R&D Office support for research should be seen as a means to develop research to a level where applications to Research Councils and other very competitive sources of funding will be successful.

In the beginning

Professor Sir Graeme Catto, University of Aberdeen

Like all good ideas the concept was beguilingly simple; use existing NHS research funding to establish a robust and clinically relevant research base in Northern Ireland. At the time Professor Ingrid Allen, then Director of R&D, proposed this simple solution I was the Chief Scientist in Scotland and, while supportive of the approach, only too well aware of the difficulties ahead. Could the money be removed from front line Health Boards and clinical services without prejudicing patient care? If that hurdle was surmounted and the funding came to the R& D Office, how would decisions on future allocations be made in a way that was generally supported?

Unlike the other countries in the UK, Northern Ireland decided to enable the R&D Office to determine the appropriate distribution of these resources now held centrally. The decision to focus the funding at least initially on areas of recognised research strength was, I think, far-sighted enabling strong groups to expand their activities and create the necessary critical mass within a multidisciplinary environment. From the start, one of the aims of the Groups was to compete successfully for external funding from research councils, medical research charities and other bodies as well as expanding their educational and training initiatives.

The review conducted last year concluded that the concept had worked pretty well and that the drive for research relevance and excellence should not slacken. It is also important that funding allocations support HPSS strategy; scientific merit while essential is not the only criterion to be considered. Indeed it is likely that in future Recognised Research Groups may be formed based on perceived need and not necessarily on existing research excellence.

For my part it has been fascinating to watch the process develop. And of course where Northern Ireland goes, others inevitably follow. The recent initiatives being proposed in England have at their heart the belief that NHS research funding should be used to support clinically relevant research of high quality. The next trick is to ensure that Northern Ireland does not lose out as England tries to catch up.

2005 RRG Call - RRG Awards

RRG 3 Child Health & Welfare

CI	Title
Dr Donald Burden	A longitudinal investigation of teasing/bullying among children with cleft lip and/or palate
Dr Melanie Giles	Changing attitudes to breastfeeding: The evaluation of an evidence based intervention with adolescents in Northern Ireland
Professor Henry Halliday	Can peer mentoring in first time mothers from socially deprived areas, during pregnancy and the first year of the infant's life, have sustained effects on child growth, health and development and maternal health and well-being?

RRG 4 Vision

CI	Title
Professor Gary McVeigh	Doppler ultrasound investigations of ocular and skeletal microcirculations in Type 1 Diabetes Mellitus
Dr Giuliania Silvestri	Is age-related macular degeneration less common in light-protected populations?
Dr David AC Simpson	Genetic and phenotypic characterisation of retinal dystrophy patients in NI
Dr Colin E Willoughby	Molecular dissection of sporadic and familial keratoconus in Northern Ireland

RRG 5 Diabetes, Endocrinology & Nutrition

CI	Title
Professor Patrick M Bell	Insulin action and vascular risk: influence of endocrine replacement and antihypertensive therapies
Dr Steven J Hunter	Pathophysiology of insulin resistance and insulin secretion defects and the development and progression of diabetes: influence on diet and autoimmunity
Professor Gerard Linden	A longitudinal of periodontal disease as a putative risk factor for coronary heart disease and stroke
Dr David R McCance	Studies of the prevalence and determinants of obesity and cardiovascular risk in young children: The HAPO Family Study
Dr David Savage	Genetic association analyses of functional candidate genes for diabetic nephropathy identified by a genome-wide microsatellite screen
Professor Elisabeth Trimble	An investigation into the modulation of obesity-associated monocyte/macrophage function, vascular inflammation and insulin resistance by PPAR agonist treatment

RRG 6 Cancer

CI	Title
Professor Frederick C Campbell	Clonal methylation profiling of morphologically normal mucosa as a risk marker of colitis-associated colorectal neoplasia (CACRN)
Professor Denis P Harkin	To develop and validate a test for the diagnosis and prediction of response to therapy in the BRCA1 deficient/basal sub type of breast cancer
Professor Patrick Johnston	Expression profiling of circulating colorectal cancer (CRC) epithelial cells: Clinical Relevance
Dr Liam Murray	The role the insulin growth factor axis and folate metabolism in the oesophageal inflammation, metaplasoa, adenocarcinoma sequence

RRG 8 Trauma & Rehabilitation

CI	Title
Dr Aubrey Bell	Predicting poor hand functional outcome in Rheumatoid Arthritis – a comparison of high-resolution ultrasound examination and occupational therapy clinical hand assessment
Dr Mark Jenkins	Drug delivery to open wounds using novel semi-solid devices as an augmentative strategy for laceration repair
Andrea Lowe-Strong	Group Exercise Therapy for Mobility and Balance in People with Multiple Sclerosis (MS): a Randomised Controlled Trial
Professor Suzanne McDonough	Exercise and auricular electroacupuncture: a subject-and assessor-blind feasibility randomised controlled trial of the effectiveness of a combined approach for chronic low back pain
Dr Madeleine Rooney	The identification of infection and proteomic biomarkers in the progression of juvenile and adult arthritis
Dr Ian Ryans	Treatment of shoulder pain by injection and physiotherapy

RRG 9 Infectious Diseases

CI	Title
Dr Sheila Patrick	Skin bacteria as a source of surgical infections: molecular Epidemiology and prevention in wound contamination
Dr Ultan Power	Generation of a genetic signature of severe RSV disease – an important step towards maximising efficiency of Palivizumab (Synagis) prescription

RRG 11 Neuroscience & Mental Health

CI	Title
Dr David Craig	The development and evaluation of a mobile phone-based streaming (MPVS) system in providing home-support for patients with Alzheimer's disease

Centre for Ageing Research and Development in Ireland

Professor Robert Stout, Director of Research & Development for the HPSS

We are living in a time of demographic change with a great increase in the number of older people and a reduction in the birth rate leading to a decrease in the number of younger people. Estimated figures suggest that by 2013 under 18's will represent less than 23% of the population while over 65's will make up over 15%. This will have many consequences, including:

Health-related: most of the common illnesses, particularly chronic diseases, become more common as age advances

Social: older people may have difficulty in living independently because of ill health and disability, including problems with cognitive function and memory, and hence require support

Economic: the "pensions crisis" is escalating

Cultural: for example, many people now reach their own retirement age at a time when their parents need increasing support; there may be issues of inheritance; there is a need to avoid an inter-generation divide.

Technology: the huge advances in technology may leave older people behind but also provide opportunities for non-intrusive assistance.

All of these aspects of the changing population demographics highlight much-needed research opportunities in a wide variety of areas, not just health and social care but engineering, technology, housing, transport, economics, sociology and others. A large amount of research in these areas is being undertaken and much research which may be relevant to ageing and old age is not necessarily labelled as such. In addition, there is a large amount of information of importance in planning for old age which exists in a variety of different sources both public and private.

This has been the background to the establishment of the Centre for Ageing Research & Development in Ireland (CARDI). It will not be a research centre in the sense that it carries out its own research although, if funds become available, it may commission research or offer research grants for particular areas of research. Its main initial task will be to scope research in relation to ageing in Ireland to discover what research is being undertaken and to see in what ways researchers can collaborate to strengthen and enhance research. It will also act as a clearing house for information on ageing and older people so that relevant information and briefing can be provided to policy makers as well as to researchers. It will highlight the needs of older people and the opportunities for research in these areas. The three strategic objectives of the Centre and the associated planned activities are to:

a) Promote co-ordination, nationally and internationally to develop strategic research in ageing:

- organising networking events to exchange information and best practice between organisations with a role to play in the ageing sector;
- supporting collaborative research and evaluation projects related to ageing, through the grant-aiding of collaborative team work;

- enabling participation from the island of Ireland in international projects and funding streams related to ageing.

b) Communicate information and innovation on ageing to researchers, policymakers, practitioners, and the general public:

- developing and maintaining a website covering all of CARDI's activities together with a comprehensive, searchable database of existing and planned (national and local) research on ageing;
- producing "themed" briefing documents and a regular CARDI bulletin on research related to ageing conducted in Ireland and internationally;
- delivering targeted communications to key stakeholders in order to strengthen the links between research, policy, and practice.

c) Stimulate innovation in research, policy and service provision:

- conducting strategic analyses of existing ageing research to identify research gaps and implementing a plan to address these gaps;
- compiling information on best practice in policy and service provision in relation to ageing;
- analysing existing data sets (e.g. from population surveys) for specific ageing issues, to the maximum effect and promoting the inclusion of age appropriate information in national data sets.

The Centre will be based in the Institute of Public Health in Ireland (IPHI) and will be housed within the Institute, at least initially. It will encourage collaboration among age-related researchers, facilitate research projects, disseminate research findings and influence the research agenda towards work relevant to the needs of older people.

A grant of 2.7 million (approx £1.8m) for five years has been made by Atlantic Philanthropies and this will be augmented by grants from the R&D Office, Northern Ireland and the Department of Health & Children in Dublin. The Centre will be overseen by an Advisory Board representative of the broad ageing field. A Steering Group has been developing the case for the Centre and it will provide the initial membership of the Advisory Board perhaps extended to include other disciplines. In the first instance the co-chairs will be: Professor David Coakley, Professor of Geriatric Medicine in Trinity College Dublin and Professor Robert Stout, Professor of Geriatric Medicine in Queen's University Belfast.

The grant will support the appointment of a Director to lead the Centre's work, a Research and Knowledge Officer to oversee collaborative research activities and a Communications & Development Officer to ensure effective communication and dissemination together with administrative, ICT and other support. The immediate line manager of the Director will be the Deputy Director of IPHI but the Director will report to the Co-Chairs of the Advisory Board. Subsequent support will depend on the outcomes of the first few years of the Centre's existence.

It is anticipated that CARDI will be established in the later part of 2006 when the initial appointments have been made.

Sudden Cardiac Arrest (SCA)

Frank Kee, Professor of Public Health Medicine Dept of Epidemiology and Public Health

Unfortunately, only around 5% of victims who suffer a Sudden Cardiac Arrest (SCA) outside of hospital survive. However, local communities may be empowered to prevent deaths through Public Access Defibrillation (PAD) schemes. The Northern Ireland PAD project, funded by the R&D Office, has been assessing the possible benefits of PAD through implementing trial schemes in both urban and rural communities. The results and knowledge gained from this project are now influencing policy-making decisions on the future deployment of PAD province-wide.

PAD schemes can help prevent deaths, since for many SCA victims, their survival depends crucially upon *early defibrillation*. A device known as a defibrillator can be used to apply an electrical shock to correct their irregular heart rhythm, and automated versions of these devices, known as Automated External Defibrillators (AEDs) can be used by volunteers with no

medical knowledge. In PAD schemes, these AEDs are disseminated through communities, and thus aim to provide treatment to SCA victims as quickly as possible - even before an ambulance arrives.

During the period January 2005-April 2006, PAD trial schemes had been deployed in both the urban region of North and West Belfast, together with the more rural Northern Neighbourhood region (comprising the district councils of Antrim, Ballymena and Magherafelt), using 100 AEDs in total. In each of these areas, the majority of AEDs were given to volunteers to carry as they went about their daily business, with only a small number of the AEDs placed in fixed locations (such as shopping centres). Mobile volunteers were paged to the scene of cardiac arrests in their community by the Northern Ireland Ambulance Service (NIAS).

Over 600 volunteers from these communities came forward for training in the use of the AEDs and formed part of the rota scheme. The project also had significant support from the Police Service of Northern Ireland (PSNI), who encouraged officers working in the study areas to be trained, and then carry the AEDs in their patrol cars.

Some results from the first year of the trial are illustrated in the table below for each of the urban/rural regions. The experience of the programme has demonstrated that volunteers are capable of responding to over 65% of incidents to which they are paged, and can arrive at the scene before the regular ambulance to a significant proportion of these. This is particularly evident in the rural Northern Neighbourhood PAD area, where in the case of 41% of the paged events, volunteers arrived before the ambulance.

Impact of the PAD trial scheme during a 1-year period.

The implementation of PAD has therefore resulted in improved response times, which are illustrated through

A demonstration in the use of an AED on a possible cardiac arrest victim by (from left): Assistant Chief Constable Roy Toner PSNI, Peter Ferguson project trainer from Queen's University, Dr Michael Moore, project manager, along with Paul (potential cardiac arrest victim).

the graph below. The cumulative response-time distributions are given for each of the urban/rural regions, to the events PAD volunteers were paged to. These distributions were generated based (i) only on NIAS response times, and then (ii) incorporating any quicker response times due to PAD volunteers, to give the best combined response. This graph highlights the impact of the PAD scheme, seen particularly in the Northern Neighbourhood area, in reducing response times.

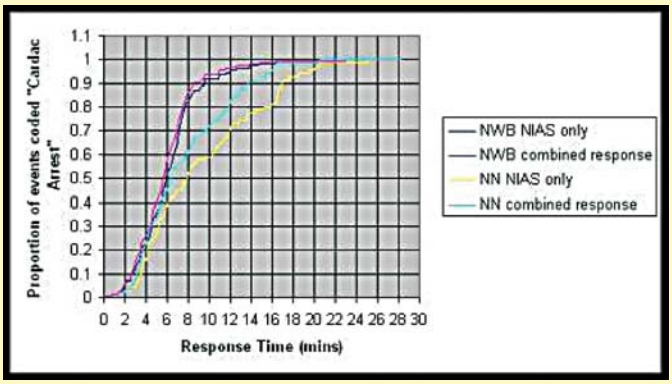
Evidence from the NIPAD programme suggests individual volunteer commitment, and local factors such as community enthusiasm and cohesion are crucial to the success of a PAD scheme. However, volunteer support has been encouraging, with over 125 volunteers indicating they would be willing to continue participating in a PAD scheme long-term, holding the AEDs for prolonged periods of time (>1 month, say).

Results and analysis from the NIPAD study have been presented at a number of prestigious meetings

Number of incidents which...	**North and West Belfast PAD**	**Northern Neighbourhood PAD**
PAD volunteers were paged to by NIAS	166	75
PAD volunteers responded to *(% of paged events)*	113 *(68%)*	59 *(79%)*
PAD volunteers reached before NIAS *(% of paged events)*	25 *(15%)*	31 *(41%)*

including the Congress of Epidemiology, in Seattle, USA, 21-24 June 2006, as well as the Society for Medical Decision Making, in San Francisco, USA, 21-24 October 2005.

Preliminary discussions have been held with DHSSPS to explore the need for a regional strategy for First Response and Public Access Defibrillation and it is hoped that action will soon be taken towards making these types of partnership-based programmes a routine part of our health service.



Improvements in the response-time distributions for North and West Belfast and for the Northern Neighbourhood, through incorporating those quicker responses of PAD volunteers

Nurse of the Year Research Award 2006

Joanne Reid University of Ulster, Belfast City Hospital HSS Trust

Whilst completing my MSc and working as a staff nurse within the Oncology / Haematology directorate of the Belfast City Hospital Trust I became aware of the opportunity to further my research training and experience through the R&D Doctoral Fellowship scheme. With committed support from the Belfast City Hospital Trust, the University of Ulster and the R&D Office I applied for an R&D Doctoral Fellowship in December 2002. After successfully being awarded a fellowship I commenced my PhD at the Institute of Nursing Research, University of Ulster in October 2003. My area of investigation focuses on cachexia, a debilitating condition experienced by approximately 50% of all cancer patients. Cancer is the leading cause of mortality in Northern Ireland and cachexia affects up to 80% of all patients with advanced malignancy. The dramatic weight loss associated with cancer cachexia is associated with poor quality of life, reduced performance status and shortened survival, as well as a range of important social and psychological issues. Previous research has centred on the causes and potential treatments for cancer cachexia, which still remain unknown. Little research has been undertaken to increase the understanding of its nature, or the impact on patients and their families. My study is novel in that it aims to explore the experience of cancer cachexia from the perspective of both patients and their significant others. The valuable insights gained from this research aim to contribute towards the best possible standard of care essential for patients, and their families, at this stage of the illness trajectory.

My fellowship allowed me to be seconded out from my clinical post and study full time. My first task was to define 'cancer cachexia'. This is a complex task and one, which today, remains elusive within the literature. However, my fellowship allowed me to travel to an international scientific audience (2nd Cachexia conference 12/03) and set up communication links with experts in the field of cancer cachexia. This enabled me to work in a collaborative fashion to operationally define cancer cachexia for the purposes of my study. As well as permitting conference attendance the doctoral award scheme allowed me to partake of international research training pertinent to my area of investigation. A qualitative research approach allowed examination of the phenomena of cachexia from both the

patients' and their family members' perspective. These were explored using unstructured interviews and the subsequent data collected were analysed from an interpretive phenomenological perspective. Through my fellowship I was given the opportunity to attend specific research training on these topics (Essex University International Summer School: Qualitative Interviewing; Australian National University: Qualitative research - Design, analysis and representation; and University of North Carolina, 10th Annual Summer Institute in Qualitative Research: Qualitative Interviewing). At the latter Institute my work was peer reviewed by experts in both palliative care and qualitative methodologies. This proved to be excellent training which was invaluable to the progress of analysis. Analysis established the holistic implication that cancer cachexia has on not only patients but also their significant others. Key findings from this study show that patients and their families are in vicious circle centred on the weight loss associated with cachexia. These results are diagrammatically represented in Figure 1.

My fellowship also gave consideration to the dissemination of findings and I was encouraged to present my research at international conferences such as the 3rd Cachexia conference (12/05) and the RCN International Nursing Research Conference (03/06). On a more local level I have also presented my research to various audiences across Northern Ireland (Cancer RRG, 07/05; Palliative Care Team BCH 12/05 and the National Council for Palliative Care 02/06). Continuing on a local level, I was delighted to be selected, following nomination for the Royal College of Nursing, Nurse of the Year Research Award in January 2006. I received this award on 1st June 2006 at a Gala evening in the Culloden Hotel, Cultra after presenting my research to a judging panel of senior nursing personnel.

Joanne receiving her Nurse of the Year Research Award

Left: Dr Carol Curran, Head of School, Nursing, UU
Right: Mrs Mary Hinds, Director, RCN

In looking towards the future, my clinical role awaits me after completion of my fellowship. However, I would like to combine this clinical role with dedicated research time. This would enable me to keep up my clinical skills while further advancing my research experience. My PhD study has employed a qualitative methodology to interpret what cancer cachexia means for patients and their families, thus increasing professional understanding of the issue. This is an important first step in knowledge generation. However, in order to advance practice, new interventions aimed at improving care need to be developed and tested. It is this which I wish to focus my post doctoral work on. I hope to work closely with user groups and the interdisciplinary team and take a lead in future projects, so that the care of patients with cachexia may improve in the next decade in the same way that those with cancer related fatigue has in the past.

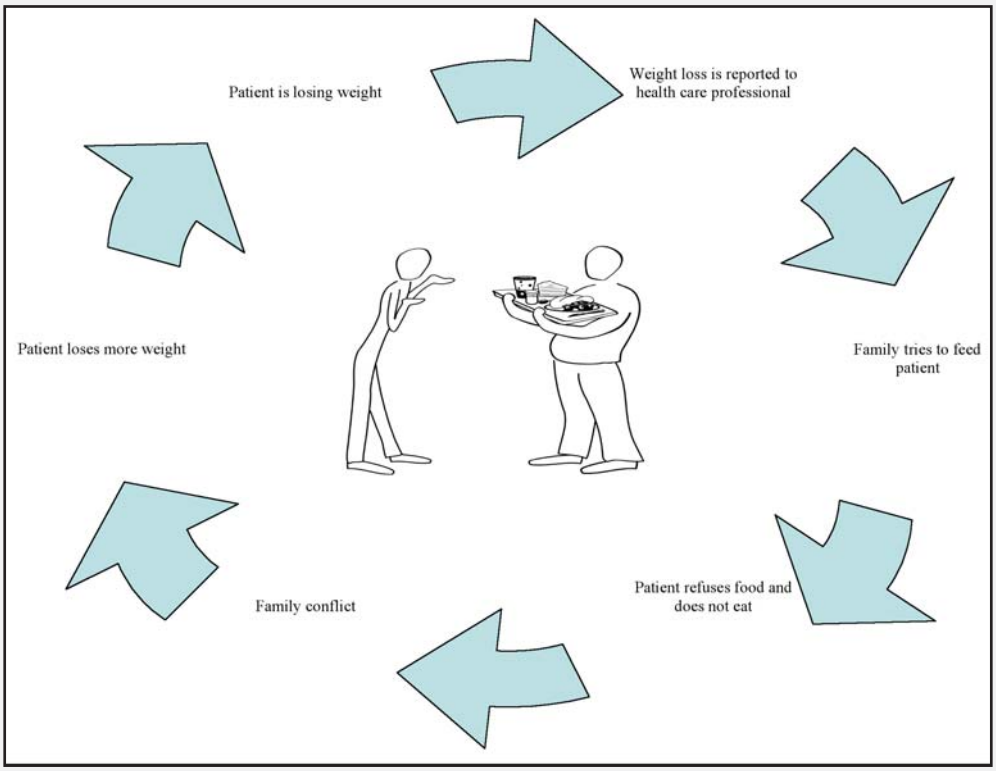


Figure1: Diagrammatic representation of key findings.

Types of Intellectual Property

Dr David Brownlee, Innovation Advisor, Clinical Research Support Centre (CRSC).

In a previous article in issue 5 of *R&D Today,* I gave a brief overview of the importance of Intellectual Property (IP) and Innovation within the Health and Personal Social Services (HPSS). The HPSS, like other organisations, is required to provide adequate IP protection as a way of encouraging more investment, research and innovation from which both they, and patients, should benefit. This article outlines the different types of IP that may arise from your work/research and how they can be protected - Patents, Copyright, Design Rights, Trade Marks and Confidential Information.

Patents

Patents are used to protect inventions that incorporate a new idea and that are capable of being made or used by the healthcare industry. Examples include medical devices, pharmaceutical products, processes or methods of operation.

To qualify as an invention, the innovation must not be obvious, compared to what is already known to someone who is experienced in the relevant field. Furthermore, to be patentable, an invention **must not have been made public anywhere in the world prior to the patent filing date.** This includes publication in journals, via the internet, oral or poster presentation at meetings, discussion with a company, etc. CRSC can work with you to ensure that technology (invention) assessment and patenting can occur without restricting or delaying publication in academic journals.

Photo courtesy of Philips Medical Systems

Discoveries, scientific theories or mathematical methods cannot be patented. In addition, methods of surgery, therapy and diagnosis are not patentable in the UK but the latter two can be patented in the United States. Microbiological processes are patentable, but plant and animal varieties and essentially biological processes for producing plants and animals are not.

Copyright

Copyright protects written information (such as brochures, leaflets, articles, assessment tools and training packs), as well as databases, computer software and audiovisual material. Copyright is achieved automatically, when the IP is created. However, it is advisable to attach a statement for additional protection, such as:

© R&D Office 2006 All rights reserved. Not to be reproduced in whole or in part without the permission of the copyright owner.

Design Rights

Design Right protects against deliberate copying of the shape or configuration of an object. Design Right may exist in addition to other forms of IP protection such as Patent, Copyright, Registered Trademark or Confidential Information.

Trademarks

A trademark is a sign or symbol that is used to distinguish a product or service from that produced or supplied by another business. It could be the design of a label or the shape of a product's packaging (for example, the Coca-Cola bottle). The term "sign" includes logos, slogans, words, colours and 3-D shapes.

Registering a trademark protects the owner from competitors also trying to use that image to promote their own products. Trademarks can be very valuable in keeping that product as a market leader. Registered Trademarks are indicated by the use of the symbol ®.

Confidential Information / Know-how/ Trade Secrets

This refers to information that is unpublished or that has not entered the public domain and has only been disclosed under a confidentiality or non-disclosure agreement. Although "know-how" cannot be patented, it can still be commercially valuable and may

a - Unregistered Design Rights
Unregistered Design Rights are not directly associated with appearance. The Design Right can protect internal and external features, but only gives protection against copying of features of shape and configuration (e.g. physical design of computer chips, engineering components and architectural drawings).

b - Registered Design Rights
In some new products the novelty lies not in a new idea or principle, but in their appearance. Registered Design Rights usually cover commercial objects with a unique or aesthetic appearance.

be suitable for licensing along with other types of IP as part of a package. For example, the use of a surgical technique (know-how) in conjunction with an invention such as a medical device.

IP identification and protection is important so that potential investors can reduce their risk in costs associated with technology development, which in turn leads to healthcare benefits. This is particularly relevant in the healthcare industry, where new drugs are very expensive and time consuming to develop, and where the results of the research are often uncertain.

This article is a very brief overview on the various types of IP protection that are available. It must be noted that this area is complex and the law does change. Therefore you are advised to contact the regional Innovation Advisor in the CRSC, at the earliest opportunity, to discuss in more detail any circumstances in which you consider that IP protection may be required for ideas that arise from your work/research.

Photo courtesy of Philips Medical Systems

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The following IP categories are relevant to the HPSS

Category	Protection Method	Examples
Inventions	Patents	New medical device, medicinal substance
Literary works	Copyright	Computer software, patient leaflet, guidelines, journal article
Designs, drawings	Design rights	Medical illustration, medical device
Brand names	Trade marks	Trust logo, equipment logo
Trade secrets	Know-how, knowledge	Surgical technique

Appointment of Linda McNeice, Clinical Trials Pharmacist, Belfast City Hospital Trust

Dr Melanie Morris, Manager, Northern Ireland Cancer Clinical Trials Unit

The Northern Ireland Cancer Clinical Trials Unit (NICCTU) and the R&D Office are delighted to announce the appointment of Linda McNeice as Clinical Trials Pharmacist based at Belfast City Hospital. Linda joins an established pharmacy team supporting the cancer clinical trials offered by the Cancer Centre at Belfast City Hospital. Having graduated from Liverpool Polytechnic in 1991, Linda brings with her a wealth of knowledge and experience gathered from her time spent in Royal Liverpool University Hospital Trust, Glasgow Royal Infirmary, the Ulster Hospital and most recently as Oncology Pharmacist based at Belvoir Park Hospital. Linda is a current member of the Pharmaceutical Society of Northern Ireland.

The expansion of the clinical trials pharmacy team marks the increasing activity in cancer clinical trials offered by the NICCTU and is seen as a crucial step in supporting the delivery of innovative treatments and quality care to cancer patients from all over Northern Ireland. The NICCTU, as part of the Centre for Cancer Research and Cell Biology at Queen's University Belfast, has also recently been awarded Experimental Cancer Medicine Centre (ECMC) status. This is in recognition that it is one of 17 UK centres providing scientific and clinical excellence in translational cancer research. The ECMC grant is jointly funded by Cancer Research UK and R&D Office (and will fund Linda from April 2007). She has been appointed to specifically facilitate phase I and II clinical trials in solid tumours and haematological malignancy. The R&D Office, in support of this award, will fund this post from August until the start of the ECMC grant in the new financial year. For further information on the work of NICCTU and ECMC please contact Dr Melanie Morris (melanie.morris@bch.n-i.nhs.uk) or telephone 028 9026 3903.

Clinical Trials Nursing Training 2006

Ruth Boyd, Cancer Research (NI) Senior Nurse, Northern Ireland Cancer Clinical Trials Unit

In October 2006, Aishleen Brunton and Lorraine McKenna will attend the 5 week Clinical Trials Nursing Training based at the National Cancer Institute (NCI) in Bethesda, Maryland, USA. The training programme which has been offered annually since 2001, was conceived, developed, and is co-ordinated by the NCI/All-Ireland Nurses Working Group. This is one of several groups within the Ireland - Northern Ireland - NCI Cancer Consortium established following the signing of the NCI/All-Ireland Memorandum of Understanding in 1999.

The broad aim of the training programme is to support and enhance recruitment to cancer clinical trials across Ireland and Northern Ireland. This is achieved by developing a skilled research workforce through increasing nurses' knowledge and experience in clinical research, and providing an on-going opportunity for networking and collaboration. Within this context, the NCI offers each participant a tailor-made learning experience based around their learning objectives. In August 2006, Aishleen and Lorraine attended an Orientation Day with the two successful applicants from the Republic of Ireland. The day included video-conferencing with the NCI co-ordinators and the process of developing an individualised 5 week schedule was initiated.

Within the programme, the available resources and expertise at the NCI are utilised, including a 3 day course on the Fundamentals of Clinical Trials, and a series of lectures on the Ethical and Regulatory Aspects of Human Subject Research. All aspects of the clinical trial life-cycle, roles, processes and procedures can be explored, and placements on research wards and clinics are available across a range of cancers and various treatment modalities.

During this unique opportunity at the NCI, participants are based in the National Institutes of Health Clinical Centre, a bio-medical research facility with over 300 beds. Participants also have an opportunity to witness the NCI trials co-ordinated at the National Naval Medical Centre in Bethesda.

Aishleen and Lorraine are experienced oncology/haematology nurses and more recently have gained experience in Clinical Research Nursing based at the Northern Ireland Cancer Clinical Trials Unit, Belfast City Hospital. On their return, they plan to share their NCI experiences, and apply their learning to the Northern Ireland clinical research setting. They also hope to sustain links with their colleagues in the USA and Ireland.

The R&D Office co-ordinated the application process and provided the financial support for the participants from Northern Ireland.

Notice Board

A number of awards have been made since the publication of Issue 6, in addition to the RRG grants listed on pages 5 and 6.

Education and Training

2006 Bursary

Applicant	Course Title
Ms Aishleen Brunton	*NCI Clinical Trials Nursing Training
Ms Terri Gilleece	*NCI Cancer Prevention Principles And Practice
Dr Sumanto Halder	*NCI Cancer Prevention Principles And Practice and Molecular Prevention
Ms Lorraine McKenna	*NCI Clinical Trials Nursing Training
Ms Caroline Oates	*NCI Cancer Prevention Principles And Practice and Molecular Prevention
Dr Taimur Raza	*NCI Cancer Prevention Molecular Prevention
Ms Katherine Rogers	*NCI Cancer Prevention Molecular Prevention
Ms Pauline Barker	Masters in Nursing (Royal College of Nursing)
Mr Andrew Bryce	Masters of Clinical Research (University of Ulster)
Mr Martin Creed	Masters in Nursing (Queens University Belfast)
Miss Helen Fiona Harper	Masters in Nursing (Queens University Belfast)
Miss Maura McAlynn	Masters in Social Research Methods (Queens University Belfast)
Ms Caroline McCaughey	Masters in Nursing (Queens University Belfast)
Mrs Roisin McSwiggan	Masters in Health Sciences (Queens University Belfast)
Ms Susan Piggott	Masters in Nursing (Queens University Belfast)
Mrs Ann Scott	MSc in Dementia Studies (University of Ulster)
Mrs Ruth Thompson	Masters in Nursing (Queens University Belfast)
Ms Eileen Tiffney	Masters in Health Promotion and Population Health (University of Ulster)
Mr Gary Walls	Masters of Science in Health Science (University of Ulster)

* NCI is the National cancer Institute - Washington DC

2006 HSCSR Studentship 2006

Supervisor & Co-Supervisor	Title
Dr Rosemary Kilpatrick, Dr Emma Larkin	Does the educational and care provision offered to young people in secure accommodation support and address their emotional and educational needs?
Dr Patrick McCrystal, Dr Jim Campbell	A Study of Drug Prevention Services for Young People
Professor Hugh McKenna, Dr Derek McLaughlin, Mrs Sinead Keeney	Users' and Professionals' Experiences of Treatment and Care for Heroin Dependency: Implications for practice
Dr Brian Taylor, Mrs Mary McColgan	The Use of Research and Professional Knowledge in Reports by Social Workers for the Higher Courts under the Children (NI) Order 1995 and the Adoption (NI) Order 1987

2006 Doctoral Fellowships

An evaluation panel for Doctoral fellowships met and awarded a total of 10 awards, 4 in Health & Social Care Research and 6 in Clinical Science Research

2006 Doctoral Fellowships (Health & Social Care)

Successful Applicants	Title
Mr Stephen Coulter	The impact of systemic family therapy as an element of treatment for families following trauma.
Mrs. Collette Donnelly	Lifestyle limitations in children and young people with cerebral palsy: a population study.
Dr Salman Kidwai	The implications of NHS Funding of Assisted Conception on Patient Demographic Distribution.
Dr Michael Quinn	Progression of renal failure in Northern Ireland.

2006 Doctoral Fellowships (Clinical)

Successful Applicants	Title
Dr Judith Carser	Investigating the role played by BRCA1 as a predictive marker of response to chemotherapy in Ovarian Cancer.
Dr Thelma Craig	The effect of hydroxyl-methyl coenzyme A reductase inhibition (statins) in patients with acute lung injury and acute respiratory distress syndrome.
Dr Brona Loughrey	Effect of statin therapy on monocyte function in the metabolic syndrome.
Dr Claire McHenry	Studies of insulin action in patients at increased vascular risk. Modulation by antihypertensive and endocrine replacement therapy.
Dr Claire McVeigh	A search for loci contributing to acquisition of peak bone mass.
Dr Gareth Riddell	Oxygen consumption kinetics in chronic heart failure and the effect of cardiac resynchronisation therapy.

COMMISSIONED RESEARCH

The R&D Office recently commissioned research to support Suicide Prevention

Successful Applicant	Title
Dr Joanne Jordan	Providing meaningful care: learning from experience of suicidal men to inform mental health services

DISSEMINATION

2006 Cochrane Systematic Review Training Courses

The R&D Office continues to liaise with the Health Research board in Dublin and UK Cochrane Centre. Three courses on Cochrane Systematic reviews were held in Ireland and Northern Ireland and the R&D Office funded 29 places in 2006.

Limerick Course
Ms Lorna Conn
Mrs Terri Gilleece
Mr Fouad Metry
Ms Moyra Mills
Dr Anne Moorhead

Dublin Course
Dr Rick Anderson
Miss Jill Cundell
Dr Ciara Hughes
Mr Campbell Killick
Ms Judith Mullineux

Belfast Course
Ms Mary Crawford
Dr Gareth Davison
Dr Efiona Dunbarr
Ms Fionnuala Green
Miss Felicity Hasson
Dr Sarah Dianne Liddle
Ms Clare McGoldrick
Ms Marie McGrady
Ms Patricia McIlwaine
Dr Columba McLaughlin
Ms Mary P McNicholl
Dr Marie Murphy
Mr Liam O'Hare
Ms Lucia Ramsey
Ms Seaneen Sloan
Ms Eilish Smith
Dr Moira Stewart
Ms Eileen Tiffney
Ms Suzanne Trouton

RDO Cochrane Training Fellowships

Cochrane Fellows 2006

Name	Review Title
Dr Karen Galway	A review of psychosocial interventions to improve quality of life and emotional wellbeing in recently diagnosed cancer patients
Dr Bronagh Blackwood	Protocolised weaning versus non-protocoliosed weaning for reducing the duration of mechanical ventilation in mechanically ventilated adults

Cochrane Fellows 2005

Surname	Review Title
Ms Bernadette Lyons	Botulinum toxin A for treatment of spasticity after stroke or non progressive brain lesion
Professor Carmel Hughes	Infection control measures and isolation policies for preventing transmission of MRSA
Professor Deirdre Walsh	Transcutaneous Electrical Nerve Stimulation (TENS) for Acute Pain

Cochrane Fellows 2004

Surname	Review Title
Dr Marianne Dillon	Endovascular Repair for ruptured Abdominal Aortic Aneurysm
Ms Jennifer McGaughey	Outreach and Early Warning Systems for prevention of ICU admission and death in critically ill patients
Mrs Suzanne Martin	Smart Home Technologies applied to support Health and Social Care
Mrs Jacqueline Robinson	Therapeutic Touch for treating anxiety

Cochrane Fellows 2003

Surname	Review Title
Dr David Craig	Rivastigmine in Vascular Dementia Galantamine in Vascualr Dementia

Cochrane Fellows 2002

Surname	Review Title
Emma McCall	Plastic barriers for the reduction of heat loss in preterm infants immediately after birth
Judy Bradley	Effectiveness of short term ambulatory oxygen for chronic obstructive pulmonary disease

HRB Cochrane Training Fellowships

Cochrane Fellows 2006

Name	Review Title
Brenda Monaghan	Surface neuromuscular stimulation for quadriceps strengthening pre- and post-total knee replacement arthroplasty
Margaret McCann	Interventions for preventing infectious complications in haemodialysis patients with central venous lines
Michelle Butler	Hospital nursing staffing models and patient outcomes

Cochrane Fellows 2005

Surname	Review Title
Hegarty	Watchful waiting versus prostatectomy for prostate cancer
Josephine Hegarty	Alcohol and drug screening of people whose work involves driving to prevent injury
Clodagh Cashman	Methods of milk expression in lactating women
Genevieve Becker	Ciclesonide for chronic asthma in adults and children
Patrick Manning	Psychosocial interventions for physical disabilty arising from injury
Malcolm MacLachlan	Laser treatment for diabetic retinopathy
Brendan Dineen	

Cochrane Fellows 2004

Surname	Review Title
Joanne Callinan	Bans on smoking for reducing tobacco consumption and smoking prevalence

Cochrane Fellows 2003

Surname	Review Title
Majda Al Fallah	Child resistant containers for prevention childhood poisoning
Zena Moore	Cleansing for pressure ulcers
Susan Smith	Effectiveness of structured shared care across the primary secondary care interface in chronic disease management
Abel Wakai	Intra-articular lignocaine versus intravenous analgesia and/ or sedation for reduction of acute anterior shoulder dislocation

Cochrane Fellows 2002

Surname	Review Title
Paul Beirne	Frequency of examination and scaling and polishing for maintaining oral health in adults
Jim Jamison	Antibiotic management of urinary tract problems in people with spinal injury
Alan Moss	Palliative stents for pancreatic cancer