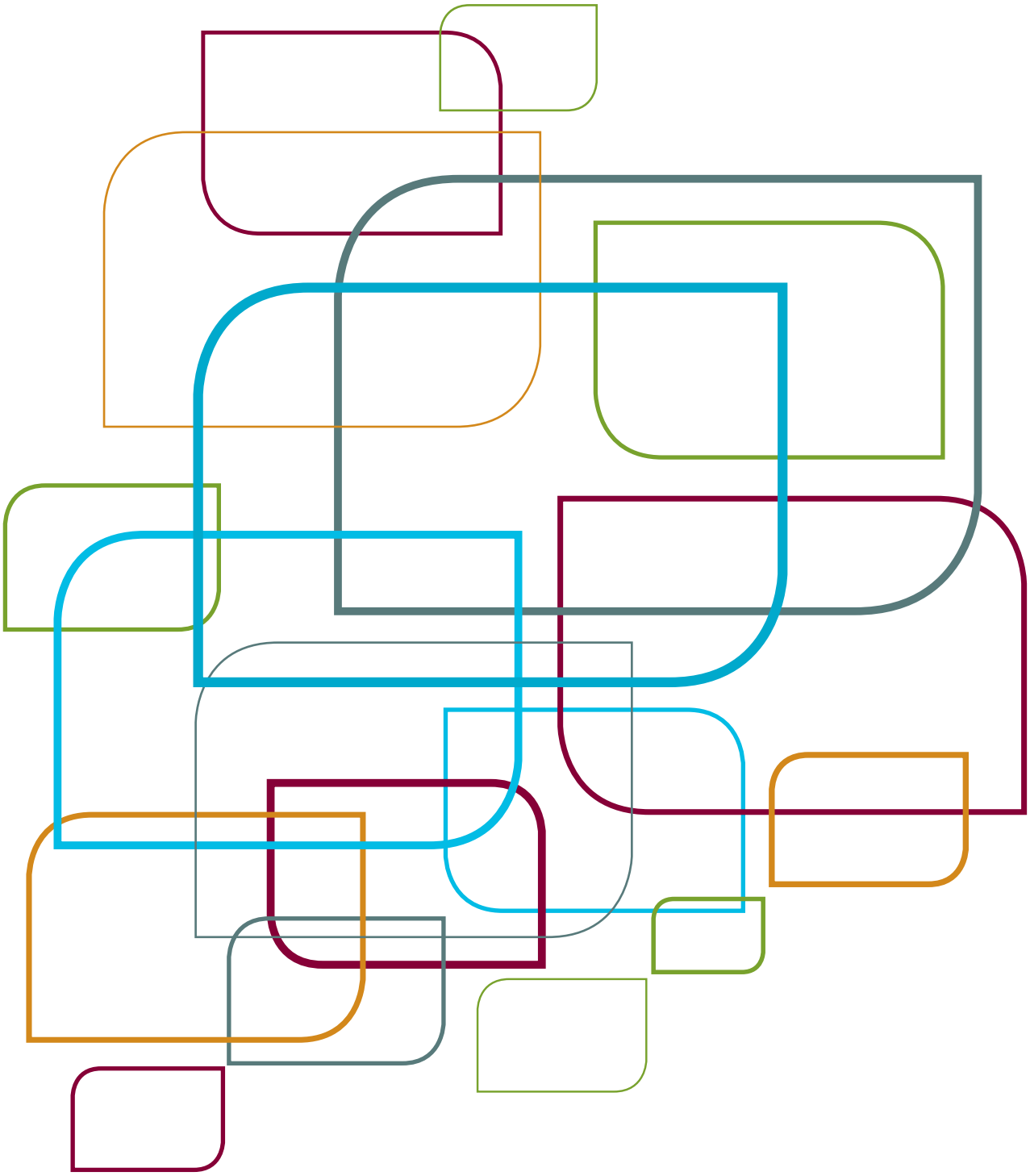

Health Research Board

Annual Report 2009

Improving people's health through research and information

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Professor Frances Ruane
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Dr Conor M Burke
Consultant Respiratory Physician
James Connolly Hospital and
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Mr Michael Griffith
(resigned Winter 2009)
Fighting Blindness

Mr Brian Kearney
Co-founder
Project Management Group

Dr Ena Prosser
Partner
Fountain Healthcare Partners

Mr Brian Sweeney
Former Chairman
Science Foundation Ireland

Chairman and CEO: overview and outlook

Ireland is encountering the most dynamic and challenging times in its economic history. Great change and transformation is already being experienced, and is inevitable for the foreseeable future. As a result, innovations in Ireland's health system will be necessary if we are to improve effectiveness, efficiency and quality, and reduce costs.

The development of new health-related products and services will also be essential for economic growth. The HRB, in applying health research and information to policy and practice, can play a substantial role in helping to secure Ireland's economic future by improving health outcomes, driving health system innovation and enabling new enterprise opportunities.

The HRB developed a new strategic business plan during 2009. This provides a clear strategic direction and specific objectives to develop Irish health research over the next five years. It focuses on improving health, transforming the way care is delivered and ensuring that good information and new knowledge are turned into practical benefits for policy and practice. The HRB strategic business plan was developed in parallel with the national *Action Plan for Health Research* in order to ensure that our actions are integrated into a co-ordinated approach to health research that is directly linked to national objectives.

The agenda-driven approach outlined in these plans will see us gradually concentrate our funding on research that offers the most potential for translation into impacts on, and benefits for, people's health. It proposes to drive the development of the capacity, infrastructure and coherence of clinical, including applied biomedical research, population health sciences and health services research within our health

system. These are all research areas which need to be developed in order for funding investments in other areas, such as basic biomedical research to be realised; none of the areas receive significant funding from any other agencies.

This focus has involved making priority choices, and has resulted in a shift away from funding basic biomedical research. However, we firmly believe that funding basic biomedical research in Ireland is essential, and must continue. Within the current national structural arrangements for health and life sciences research, other agencies have a mandate to provide funding in this area and, in the current economic environment, our approach avoids unnecessary duplication. The key to optimising the State's investment in health-related research, and to meeting the various sectoral requirements across the whole spectrum of health research, is to ensure that there is interactive collaboration between the different mission-led agencies. HRB is committed to, and is actively pursuing, such co-operation and collaboration.

This report outlines some examples of the impact that the HRB is having in terms of funding excellent research, building capacity within the research system, and generating information which will influence both policy and practice. At a glance, some of the main achievements in 2009 were:

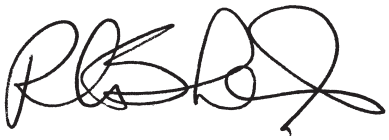
- The development of an agenda-led strategic business plan that is both realistic and workable.
- The completion of 111 grant awards which include impacts such as:
  - eight patents and eight patent applications
  - 18 new treatments and technologies
  - 57 different types of evidence for policy and practice
  - 85 new clinical trials
- Restructuring and reshaping two of our main award schemes, the Health Research Awards and Health Professional Fellowships, to reflect our new strategic direction.
- The generation of information for decision-making among service planners, researchers and policy makers, including: -
  - the first ever national report on the social consequences of alcohol use
  - insight into the increasing future needs of people aged 50 and over with an intellectual disability
  - the first Irish data on deaths among drug users from medical or traumatic causes
  - new information on the factors that influence GP attendance by people with mental health problems

- Significant progress made in developing clinical research facilities in three hospitals in order to support clinical research capability in the wider health system.

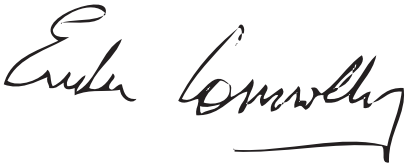
The above examples do not reflect the full extent of work completed during the year. Staff have shown incredible focus and have delivered on challenging work programmes during a period of enormous change and we would like to acknowledge their commitment and hard work.

Board members have provided strong leadership throughout the year. They continue to provide the challenge that people need to push the boundaries of excellence, and they are supportive of new ideas that demonstrate initiative and make economic sense. We would like to acknowledge the contributions they have made all year and express our appreciation for their advice, direction and support.

Over the next few years, the challenges will be great for everyone in our economy and across the public service. However, we believe we can continue to deliver outcomes and impacts that can help transform our health services and support economic growth. This can be achieved through our new strategic focus, together with the Government's commitment to invest in science, technology and innovation and the continued support of our stakeholders, particularly the Department of Health and Children and the Health Service Executive.



Dr Reg Shaw
Chairman



Enda Connolly
Chief Executive

Developing a new strategic direction

Process and approach

In late 2008, the Chief Executive established a team to develop a strategic direction for health research for the the period 2010 - 2014. This initiative was driven by the need to address both the changing economic environment and a number of key issues and challenges including:

- major changes in the Irish health system
- developments in the Irish research landscape over the previous decade
- gaps in health research, clinical research leadership and capacity
- the demand from academia and industry for access to the clinical environment as research partners
- an increased desire to focus on benefits, impact and value for money

The team worked closely with the HRB Board, key stakeholders and staff. They developed a clear vision and mission, and set an agenda of core goals to be pursued between 2010 and 2014. Central to the strategy is the aim of creating a coherent research system at the heart of our health service which executes and delivers quality research and information that can make an impact by improving people's health, changing service delivery, brokering evidence into practice, and creating enterprise opportunities. This will involve achieving the highest quality of research and developing the right skills, conditions and capacity in the Irish health system to accelerate the translation of research discoveries into real benefits.

Our vision: *Healthy people through excellent research and applied knowledge.*

Our mission: *To improve people's health, patient care and health service delivery by:*

- leading and supporting excellent research by outstanding people within a coherent health research system
- generating knowledge and promoting its application in policy and practice

and, as a result, play a key role in health system innovation and economic development.

Our Goals: *During the five-year period covered by this plan, we will focus on four strategic goals in order to achieve our vision and execute our mission:*

1. Driving the development of excellent clinical research, including applied biomedical research, within a coherent health research system.
2. Building capacity to conduct high-quality population health sciences research and health services research.
3. Working with key partners to develop and manage high-quality national health information systems.
4. Generating and synthesising evidence, and promoting the application of knowledge to support decision-making by policy makers and relevant practitioners.

Engagement and consultation

Central to the development of the plan were input, collaboration and engagement with a wide range of stakeholders. Contributions were provided by the Department of Health and Children; funding and development agencies in the realms of health, enterprise, education and science; the HSE, HIQA and a large number of health professionals and academics. This helped to ensure that the plan is well placed, not only to deliver better healthcare and services, but also to contribute to the wider agenda for economic development and further education. In consultation with these groups we mapped out the current landscape of research, information and funding, paying careful attention to ensure that the proposed areas of funding do not overlap or duplicate the work of other research funders.

The HRB strategic business plan was developed in parallel with the national *Action Plan for Health Research 2009—2013* in order to ensure that our actions are integrated into a co-ordinated approach to health research that is directly linked to national objectives. Together these plans will see the HRB play a key leadership role in the further development of health research in Ireland.

Designed to deliver

The new *Health Research Board Strategic Business Plan 2010–2014* focuses on actions and has set out a range of key deliverables aimed at achieving the core goals. It commits the HRB to a number of overarching principles:

- a commitment to a culture of excellence in research and innovation
- leadership of health research through partnership and collaboration

- a determination to have knowledge translated and applied
- the commitment to having research at the core of the health system
- a focus on good governance, high performance and value for money

A particular importance is placed not only on ensuring value for money, but on patient-oriented research and its application and translation into real benefits. There is also a strong emphasis placed on the need to develop our capacity to undertake population health science and health service research as key enablers of health service transformation. The strategic business plan commits us to optimising the use of current resources and to working in close collaboration with others, in order to achieve our vision of healthy people through excellent research and applied knowledge.

Some of the key actions in the plan include:

- developing more patient-oriented research projects and programmes
- increasing support for health services research and population health sciences
- driving coherence and oversight within the health system
- developing the research capacity of, and career paths for, our health professionals
- establishing Clinical Research Facilities as an enabler of health research
- creating health networks, centres and collaborative groupings of clinicians and other health professionals
- managing national health information systems that are fit for purpose and embedded in the national information system framework
- generating high-quality evidence that is adopted by policy makers and practitioners
- leading innovative knowledge transfer initiatives that turn research evidence into policy and practice

The Government has highlighted its on-going commitment to supporting research, development and innovation, despite the economic challenges facing the country. We fully recognise that the Government faces considerable constraints on the availability of finances for investment. This strategic business plan has been formulated in the full knowledge of these constraints and has reflected this in a number of ways.

Health research: making an impact

Each year the HRB reviews and evaluates the impact of funded research projects that have been completed during that year.

This section highlights how HRB-funded research is having an impact and is delivering outcomes in four key areas:

- developing new treatments, technologies and therapies
- creating potential commercial opportunities and economic benefits
- creating a robust research capacity and infrastructure
- innovating health research reputation and healthcare policy and practice

It also provides some examples to illustrate the benefits resulting from HRB projects and programmes completed in 2009.

Summary of outputs from projects and programmes completed during 2009

Output type	2009	2008	2007
Number of grants completed	111	93	55
Total number of research jobs supported through these grants	211	243	142
Total number of peer-reviewed publications published by people who received these awards	302	301	134
Commercial opportunities generated (e.g. patents)	21	N/A	N/A
Additional funding leveraged by HRB–funded researchers on foot of their successful work, either on their own (direct) or within teams (indirect)	€70.7m	N/A	N/A

N/A means these figures were not collected previously

New treatments, technologies and therapies

HRB-funded researchers are making a substantial contribution on the national and international stage by creating new therapies, technology, diagnostics and treatments. These successful discoveries are not only having an impact on people's health, they are increasing Ireland's capacity for enterprise and innovation.

New treatment, technology and therapy outcomes from HRB–funded research in 2009 included:

- **1,628 patients** were enrolled on cancer clinical trials (an increase of 600 since 2008).
- Four **treatments** for inoperable cancer, Epidermolysis Bullosa, MRSA and other antibacterial infections are in development.
- **Two diagnostic biomarkers** for early detection of cardiovascular disease are in development.
- Two **diagnostic imaging techniques** are in train to improve epilepsy and optimise mammography examinations for detecting breast cancer.

The examples below further demonstrate our success in this area

Clinical trial:

Most women with early stage breast cancer are advised to receive chemotherapy among other treatments. There is no evidence that chemotherapy benefits them all equally. In 2009, a total of 340 Irish patients enrolled in a breast cancer clinical trial called TAILORx in 12 hospitals across Ireland. This study is looking at the women's genetic profiles to find out if they would benefit from chemotherapy. Applied in practice, this could mean fewer women would need to undergo chemotherapy and suffer the related negative side effects. It would also reduce costs in the health system and save clinical time.

Online treatment success:

A team of HRB–funded researchers at University College Cork (UCC) found that a randomised control trial generated strong evidence that patients could successfully self-manage their warfarin treatment using an internet interface instead of having to attend traditional clinics. Patients involved in the trial were delighted with the freedom, as well as the convenience that this gave them.

New technology kills infections:

A study in Athlone Institute of Technology showed how a light and gas-based technology could be used to disinfect and sterilise medical instruments, devices and contact surfaces. While the technology has been employed successfully in the food industry, this is the first time that health–care infections such as MRSA have been tested. This light and gas-based technology has great potential to support infection control strategies in the future.

Creating potential commercial opportunities and economic benefits

Health research is by its nature patient-focused. However, increasingly, it is evident that health research has an incredible potential to generate commercial opportunities and develop the enterprise agenda. Our funded work also clearly illustrates a capacity to underpin changes in practice, which will generate significant cost savings across the health service. It also supports job creation and develops our knowledge economy.

Many potential commercial opportunities and economic benefits may be derived from projects completed during 2009. Highlights include:

- eight patents were awarded and eight patent applications were submitted
- 85 new clinical trials were introduced
- 211 research jobs were supported
- €70.7 million was leveraged from alternative funding sources

The examples below provide a snapshot of how this was achieved.

New business:

A new company being developed at University College Dublin (UCD) will license bioinformatics software (which applies statistics and computer science to molecular biology). The software was developed during the course of a HRB research grant.

New device:

A team at Cork Cancer Research Centre, UCC developed a new technology which will directly target cells in inoperable cancers. Clinical trials on this project will get underway shortly. Enterprise Ireland has provided funding to help bring the product to market.

Creating savings:

Another new innovation is StoppStart, a decision–support management tool for prescribing medicines which will have a major impact on patient safety. If implemented, at a cost of approximately €14 million in 50 hospitals, it has the potential to save around €180 million in unnecessary prescription costs as well as reduce other hospital costs.

Additional funding:

HRB principal investigators secured €14.7 million additional funding as a direct outcome of the success of their HRB–funded work. A further €56 million was secured by HRB grant holders through their participation on international research consortia.

Developing research capacity and infrastructure

In order to undertake high–quality research, develop world–class researchers and assimilate new advances from health research, it is essential to have the appropriate research infrastructure, culture and human capacity to innovate and embrace new knowledge. The HRB is committed to growing research capacity and infrastructure which supports people to undertake quality research, and the organisation plays a central role in developing a coherent approach to health research within our health system. This activity is incorporated into all of the HRB goals and objectives, and focuses on a number of important areas including:

- the development of careers and career paths for health professionals to include a research dimension
- the establishment of support infrastructure and facilities to enable world–class clinical research and networks
- the delivery of methodology support for researchers to stimulate robust research proposals
- the cultivation of co-funding and collaborative arrangements to maximise research opportunities

Some of our success in this area is reflected in the examples below.

Research career path for medical graduates:

In 2009, the HRB and the HSE continued to co-fund a fellowship scheme which enables medical graduates to undergo the specialist training required to attain consultant status while simultaneously carrying out research for a PhD, thereby ensuring that research is a core component of their clinical training.

Clinical Research Facilities progress:

The HRB funds three facilities, one in Dublin with the Wellcome Trust and one each in Galway and Cork. The creation of this infrastructure has resulted in:

- more than 800 patients being recruited to clinical studies in 2009 (600 in Dublin and 200 in Galway)
- 25 clinical research studies in diabetes, cancer, nephrology, dermatology, psychiatry, pulmonary disease, neuropsychiatry and gastroenterology (four in Dublin and 21 in Galway)
- the creation of 15 full-time and four part-time jobs (11 in Dublin and eight in Galway)
- the development of a clinical research programme in pharmabiotics and human nutrition, cardiovascular disease and cancer (Cork)

Methodology support:

The HRB Centre for Support and Training in Analysis and Research (CSTAR) opened for business in September 2009. This two-year pilot project will provide statistical and methodological advice and support to strengthen quality in health services, primary care and clinical research. It also delivers training and education in research methodologies. There has been great demand for this support service. For more information visit their website: www.cstar.ie

Collaboration:

In 2009, the HRB co-funded research projects and programmes with the Health Service R&D Office in Northern Ireland, Wellcome Trust and the Irish Medical Charities Research Group.

Innovating healthcare policy and practice

Many research studies provide compelling evidence for a need to make changes to policy and practice, but often these changes are not implemented, creating a 'research -to-practice gap'. The HRB is committed to speeding up the translation of research discoveries into real benefits for health, and to closing the gap between research discovery and application in policy or practice.

The growth of Ireland's scientific reputation in health research also reinforces our ability to influence knowledge, policy and practice further afield.

During 2009 outcomes from 57 HRB projects had an impact on either policy or practice, and our funded researchers published in more than 300 international peer review journals.

Some examples are outlined below.

Change in practice:

One research fellow in the Royal College of Surgeons in Ireland (RCSI) demonstrated that repositioning patients with pressure ulcers at a 30 degree angle instead of a 90 degree angle reduced the incidence of pressure ulcers four-fold. This change in practice reduced the amount of time spent by nurses on dressing wounds, and saved money. It has now been adopted as an HSE best practice guideline.

Influencing policy:

Findings from a HRB–funded study on alcohol and unsafe sex conducted in the RCSI were quickly adopted by the HSE, Crisis Pregnancy Programme and others in reports and policy on alcohol-related harm.

Improving diabetes outcomes:

One study in St Vincent's University Hospital demonstrated that changing negative or 'inaccurate' perceptions among patients with poorly controlled type 2 diabetes could dramatically improve diabetes-related outcomes, such as blood sugar control and co-operation by using simple diet and exercise programmes.

Reducing tooth decay:

HRB–funded researchers in Cork University Dental School and Hospital produced comprehensive guidelines to reduce tooth decay in Irish children. The guidelines are practical, can be used in the existing health care services, and are focused on improving outcomes for patients.

High impact publications:

HRB researchers produced 302 peer-reviewed publications. 75% of these were published in prestigious international journals with medium-to high-impact factors. A journal's impact factor reflects the number of citations it receives, indicating the prestige of the research published.

Coeliac gene discovery published:

A HRB-funded research team in the Institute of Molecular Medicine at St James's Hospital discovered genes associated with coeliac disease as part of an international research group. The work was published in *Nature* and the *New England Journal of Medicine*.

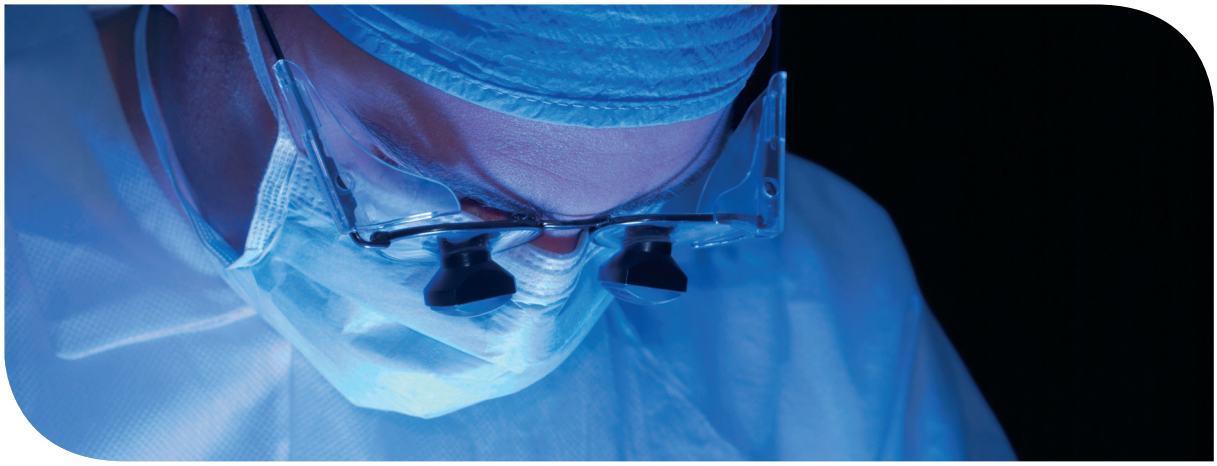
Funding research excellence

During 2009, the HRB awarded almost €29 million to new health research projects, bringing its total funding commitment across the Irish health research system to more than €193 million. This investment will help develop existing health research infrastructure and will underpin the development of research staff across Ireland's health services; it will also ensure that the HRB's research projects are of the highest quality, and will thus facilitate the delivery of improved health services and better health outcomes for people in Ireland.

As in previous years, all investments were made on the basis of stringent international peer-review processes. Of the 1,069 applications received during the year, a total of 242 were allocated funding support. A full breakdown of the funding awarded is set out below. This illustrates the number and variety of new health professionals, as well as details of the type of infrastructure projects and research programmes supported in 2009.

Table 1 New awards made in 2009

	No. of Awards	Average award investment	Total investment in scheme
Career support schemes and capacity building			
Cochrane Fellowships	5	67,105	335,525
Summer Student Scholarship	47	2,000	94,000
NCI Summer Curriculum (Cancer Consortium)	18	2,000	35,000
Post-doctoral Research Fellowships	9	202,791	1,825,119
Health Professional Fellowships	16	171,891	2,750,258
Health Economics Fellowships	2	201,486	402,973
HRB/Marie Curie Post-doctoral Mobility Fellowships	3	261,842	785,526
National SpR/SR Academic Fellowships (NSAFP)	4	576,392	2,305,567
Research grants			
Health Research Awards	42	212,000	8,888,299
HRB/MRCG co-funded awards	12	83,000	1,000,000
Training and workshops			
Cochrane two-day course on systematic reviews	50	N/A	N/A
Half-day 'Introduction to Cochrane' collaboration	128	N/A	N/A
Infrastructure			
ICORG hospitals and Group Central Office	12	350,000	12,600,000
Total	**348**	**2,130,507**	**31,022,267**



The success rates on the two major HRB response-mode schemes, the Health Professional Fellowships and the Health Research Awards, are broadly in line with international norms (15-20%). The Health Research Awards, which were divided into five separate subjects areas, had an average success rate of 14%, while the Health Professional Fellowships success rate was 20.5%.

In line with the HRB Strategic Business Plan 2010–2014, the existing structure of the grant schemes was reviewed in 2009. This was to reflect the revised HRB research focus on areas which offer the most potential for translation into impacts and benefits for health policy and practice. As a result, from 2010 onwards, HRB funding awarded to projects, programmes and fellowships must now address patient-oriented research, health services research or population health sciences research.

For the Health Research Awards call, three new committees were proposed to underpin the strategic areas of:

- Patient-oriented research
- Population health sciences research
- Health services research

Membership of committees, including Chairs, are drawn predominantly from outside Ireland.

For the Health Professional Fellowships, applications were sought from health professionals who are addressing research questions in one of the above strategic areas.

Generating information

Sound evidence and high-quality information are central to good decision-making on health issues.

The HRB manages five national information systems which provide the most up-to-date evidence for service planning and decision-making on issues such as alcohol and drug use, mental health and disability. The real benefit of these information systems is that they can provide epidemiological data fundamental to the health services and/or clear evidence about the areas where additional services are needed most. The information provided enables health service managers and policy-makers to make more effective decisions about services for the people who need them. A full list of the reports published by the HRB, or in journals, is set out in Appendix A. The full text of HRB reports is available on the HRB website: www.hrb.ie/publications.

The sample case studies outlined below illustrate the value generated from these information systems during 2009.

Trends and needs of over-50s with intellectual disability

The HRB undertook trend analysis on people aged 50 years and over who are registered on the National Intellectual Disability Database (NIDD). The findings showed that the demand for services for this age group is set to rise between 2009 and 2014, as more people with an intellectual disability survive into older age. Therefore services will have to be developed to cater for this group.

Key findings

- The number of people aged 50 years and over registered on the NIDD increased by 11%, from 3,869 in 2003 to 4,279 in 2007.
- A positive shift away from the more traditional institutional settings and a move towards community group homes. In 2003, 948 of this cohort were living in community group homes; the figure increased to 1,253 in 2007, a rise of almost 33%.
- Demand for multidisciplinary services such as psychiatry and medical services appears to be influenced by age, with more people aged 65 years and over receiving these services.

Social consequences of harmful alcohol use

Personal alcohol consumption is related to 60 medical conditions and leads to premature death from disease, accidents and injuries. In the first ever comprehensive Irish study on the wider social consequences of alcohol use, we revealed the extent of social problems; such as violence, public disturbance, poor work performance and family problems, which had never previously been quantified in Ireland.

The study shows that typical offender is a young male aged 24 years or under. Half of all offences are committed at weekends. Just under half of adult offences occur between midnight and 4.00am, with a peak at 2.00am.

Factors influencing attendance at the GP for mental health problems

This is the first survey to investigate the factors that influenced attendance at the GP, specifically for mental health problems.

It showed that 12% of people on the island of Ireland were showing signs of significant psychological distress. Factors that influenced attendance at the GP were 'need' factors such as mental health status, while 'non-need' factors such as income did not influence attendance. The report also highlights the important role of family and friends as a source of support for those experiencing psychological distress. The survey provides a baseline that can be used to monitor distress in Ireland and the associated health service use. It also identifies possible interventions to improve supports for mental health problems in the community and in primary care.

Deaths among drug users

This is the first Irish report to examine trends in deaths among drug users due to traumatic or medical causes, and not as a direct consequence of poisoning (overdose). The analysis showed that the number of deaths due to medical causes and trauma almost trebled between 1988 and 2005. In total there were 270 deaths due to medical causes, with the annual number rising from 11 in 1998 to 63 in 2005.

The most common medical causes of death among drug users were cardiac events followed by respiratory infections and liver disease. Two-thirds of those who died from medical causes had a history of opiate use. Three in every five of those who died of liver disease had a history of alcohol dependence.

The number of deaths among drug users due to trauma doubled from 39 in 1988 to 83 in 2005. Alcohol was present in almost two-thirds of cases. Cannabis, heroin and cocaine were found in the greatest proportions in deaths due to violence. Benzodiazepines and antidepressants were found in deaths involving hangings or drowning, which suggests that a portion of these cases may have had mental health problems.

Spina Bifida – HRB involved in research that eliminates suspected cause of the disease

The HRB played a key role in new research published in the *New England Journal of Medicine* in 2009 which shows that folic acid-related auto-antibodies are quite common throughout the Irish population, and that they are no more common in affected mothers than in other groups, including men. This refutes an earlier study that indicated a link between folic acid-related auto-antibodies in expectant women and the risk of neural tube defects in their babies.

The HRB worked with a team in Trinity College Dublin, the State University of New York and the National Institutes of Health in the US on the study. It involved 140 mothers of affected children who were recruited through the Irish Association for Spina Bifida and Hydrochephalus, as well as an additional 238 Irish participants.

It is the most definitive study to date to address the possible cause of Neural Tube Defects (NTDs). The finding is particularly relevant here in Ireland as we have one of the highest incidences of NTDs in the world, with one in every 1,000 babies affected.

Appendix A
List of HRB publications

Alcohol and Drug Research Unit (2009) *Drugnet Ireland*. Issue 29, Spring. Dublin: Health Research Board.

Alcohol and Drug Research Unit (2009) *Drugnet Ireland*. Issue 30, Summer. Dublin: Health Research Board.

Alcohol and Drug Research Unit (2009) *Drugnet Ireland*. Issue 31, Autumn. Dublin: Health Research Board.

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Alcohol and Drug Research Unit (2009) 2008 National Report (2008 data) to the European Monitoring Committee on Drugs and Drug Addiction EMCDDA by the Reitox National Focal Point. Ireland: new developments, trends and in-depth information on selected issues. Dublin: Health Research Board. http://www.ndc.hrb.ie/toc.php?id=15

Daly A and Walsh D (2009) *Activities of the Irish Psychiatric Units and Hospitals 2008*. HRB Statistics Series 7. Dublin: Health Research Board.

Doyle A, O'Donovan M, and Craig S. (2009) *National Physical and Sensory Disability Database Committee Annual Report 2008*. HRB Statistics Series 7. Dublin: Health Research Board.

Kelly F, Kelly C, and Craig S (2009) Trends in demand for services among those aged 50 years and over with an intellectual disability, 2003-2007. *HRB Trends Series 5*, Dublin: HRB.

Kelly F, Kelly C, Maguire G and Craig S. (2009) *Annual Report of the National Intellectual Disability Database Committee 2008*, HRB Statistics Series 6, Dublin: Health Research Board.

Daly A (2008) *National Psychiatric In-Patient Reporting System (NPIRS) Preliminary National Bulletin Ireland 2007*. Dublin: Health Research Board.

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Daly A (2009) *National Psychiatric In-Patient Reporting System (NPIRS) National Bulletin Ireland 2008*. Dublin: Health Research Board.

Lynn E, Lyons S, Walsh S and Long J (2009) *Trends in deaths among drug users in Ireland from traumatic and medical causes, 1998 to 2005.* HRB Trend Series 8. Dublin: Health Research Board.

Bellerose D, Carew A, Lyons S and Long J (2009) *Trends in treated problem cocaine use in Ireland, 2002 to 2007.* HRB Trend Series 6. Dublin: Health Research Board.

Carew A, Bellerose D, Lyons S and Long J (2009) *Trends in treated problem opiate use in Ireland, 2002 to 2007.* HRB Trend Series 7. Dublin: Health Research Board.

National Documentation Centre on Drug Use (2009) *Directory of courses and training programmes on drug misuse in Ireland 2009.* Dublin: Health Research Board.

Mongan D, Hope A and Nelson M (2009) *Social consequences of harmful use of alcohol in Ireland.* HRB Overview Series 9. Dublin: Health Research Board.

O'Donovan M and Doyle A (2009) *Measure of Activity and Participation (MAP): Participation and ageing: the experience of people on the NPSDD.* MAP Bulletin No. 4. Dublin: Health Research Board.

Tedstone Doherty D and Moran R (2009) *Mental health and associated health service use in the island of Ireland*. HRB Research Series 7. Dublin: Health Research Board.

Journal publications 2009

A number of HRB staff had papers accepted for publication in international journals. These are listed below.

Bergen SE, Fanous AH, Kuo PH, Wormley BK, O'Neill FA, Walsh D, Riley BP and Kendler KS (2009) No association of dysbindin with symptom factors of schizophrenia in an Irish case-control sample. Am J Med Genet B Neuropsychiatr Genet.

Bergen SE, Fanous AH, Kuo PH, Wormley BK, O'Neill FA, Walsh D, Riley BP and Kendler KS (2009) No association of dysbindin with symptom factors of schizophrenia in an Irish case-control sample.Am J Med Genet B Neuropsychiatr Genet.

Bergen SE, Fanous AH, Walsh D, O'Neill FA and Kendler KS (2009) Polymorphisms in SLC6A4, PAH, GABRB3, and MAOB and modification of psychotic disorder features. Schizophr Res. 109(1-3):94-7.

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Chen X, Sun C, Chen Q, O'Neill FA, Walsh D, Fanous AH, Chowdari KV, Nimgaonkar VL, Scott A, Schwab SG, Wildenauer DB, Che R, Tang W, Shi Y, He L, Luo XJ, Su B, Edwards TL, Zhao Z and Kendler KS (2009) Apoptotic engulfment pathway and schizophrenia. PLoS One. 1;4(9):e6875.

Chen Q, Che R, Wang X, O'Neill FA, Walsh D, Tang W, Shi Y, He L, Kendler KS, Chen X (2009) Association and expression study of synapsin III and schizophrenia. Neurosci Lett. 20;465(3):248-51.

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Holmans PA et al (2009) Genomewide linkage scan of schizophrenia in a large multicenter pedigree sample using single nucleotide polymorphisms. *Mol Psychiatry*, 14(8):786-95.

Kartalova-O'Doherty Y, Doherty (2009) Satisfied carers of persons with enduring mental illness: who and why? *International Journal of Social Psychiatry* 55(3): 257-271.

Kelly, F., Craig, S., McConkey, R. and Mannan, H. (2009) Lone parent carers of people with an intellectual disability in the Republic of Ireland. *British Journal of Learning Disabilities*, 37, 265–270.

Kuo PH, Kalsi G, Prescott CA, Hodgkinson CA, Goldman D, Alexander J, van den Oord EJ, Chen X, Sullivan PF, Patterson DG, Walsh D, Kendler KS and Riley BP (2009) Associations of glutamate decarboxylase genes with initial sensitivity and age-at-onset of alcohol dependence in the Irish Affected Sib Pair Study of Alcohol Dependence. *Drug Alcohol Depend*, 1;101(1-2):80-7.

Mitchell A, Pangilinan FJ, Van der Meer J, Molloy AM, Troendle J, Conley M, Kirke PN, Scott JM, Brody LC, Mills JL (2009) Uncoupling protein 2 polymorphisms as risk factors for NTDs. *Birth Defects Res A Clin Mol Teratol,* 85(2): 156-60.

Molloy AM, Brody LC, Mills JL, Scott JM, Kirke PN (2009) The search for genetic polymorphisms in the homocysteine/folate pathway that contribute to the etiology of human neural tube defects. Birth Defects Res *A Clin Mol Teratol,* 85(4):285-94.

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Riley B, Kuo PH, Maher BS, Fanous AH, Sun J, Wormley B, O'Neill FA, Walsh D, Zhao Z and Kendler KS (2009) The dystrobrevin binding protein 1 (DTNBP1) gene is associated with schizophrenia in the Irish Case Control Study of Schizophrenia (ICCSS) sample. *Schizophr Res.*

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Thiselton DL, Maher BS, Webb BT, Bigdeli TB, O'Neill FA, Walsh D, Kendler KS and Riley BP (2009) Association analysis of the PIP4K2A gene on chromosome 10p12 and schizophrenia in the Irish study of high density schizophrenia families (ISHDSF) and the Irish case-control study of schizophrenia (ICCSS). *Am J Med Genet B Neuropsychiatr Genet.*

Vladimirov VI, Maher BS, Wormley B, O'Neill FA, Walsh D, Kendler KS, Riley BP (2009) The trace amine associated receptor (TAAR6) gene is not associated with schizophrenia in the Irish Case-Control Study of Schizophrenia (ICCSS) sample. *Schizophrenia Research,* 107(2-3):249-54.

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Appendix B
Extract from the Financial Statements

Revenue Income and Expenditure Account

for the year ended 31 December 2009

	2009	2008
	€	€
INCOME		
Department of Health and Children revenue grant	**35,241,000**	36,884,529
Other research funding	**1,797,360**	2,856,861
Interest receivable	**47,865**	55,164
Proceeds from insurance claim	**-**	42,500
Transfer to capital reserves of amount allocated to fund fixed assets	**(1,689)**	-
	37,084,536	39,839,054
EXPENDITURE		
Research Strategy and Funding Directorate	**30,052,265**	32,886,411
Health Information Systems and In-House Research Directorate	**3,987,247**	3,942,935
Corporate Function Directorate	**3,027,062**	3,138,340
Pensions paid to retired members of staff	**10,234**	(135,169)
	37,076,808	39,832,517
SURPLUS FOR THE YEAR	**7,728**	6,537
Revenue reserve at 1 January	**49,197**	42,660
REVENUE RESERVES AT 31 DECEMBER	**56,925**	49,197

Capital Income and Expenditure Account

for the year ended 31 December 2009

	2009	2008
	€	€
INCOME		
Department of Health and Children capital grant	**12,037,840**	12,439,199
Amortisation of capital fund account	**87,617**	155,578
Contribution to fund fixed assets	**-**	(158,683)
	12,125,457	12,436,094
EXPENDITURE		
Equipment grants and start-up funding	**-**	155,171
Clinician Scientist Awards	**2,555,363**	2,479,348
Imaging Awards	**564,518**	1,086,153
Health Services R&D Awards	**1,621,549**	1,616,005
PhD Scholars Programme	**3,522,641**	2,579,085
Translational Research Awards	**3,021,698**	2,959,444
Methodology Support Centre Award	**-**	599,330
Clinical Research Facilities	**725,000**	315,000
Commissioned research	**-**	101,247
ICT development	**-**	344,703
Refurbishment costs	**27,071**	45,030
Depreciation	**84,944**	116,240
Loss on disposal of fixed assets	**2,673**	39,338
	12,125,457	12,436,094
(DEFICIT)/SURPLUS FOR THE YEAR	**-**	**-**

Balance Sheet

for the year ended 31 December 2009

	2009	2008
	€	€
FIXED ASSETS		
Tangible assets	**237,721**	323,649
CURRENT ASSETS		
Debtors	**549,483**	436,933
Investments	**641**	641
Cash at bank and on hand	**403,366**	500
	953,490	438,074
CURRENT LIABILITIES		
Amounts falling due within one year:		
Bank	**-**	11,569
Creditors	**896,565**	377,308
	896,565	388,877
NET CURRENT ASSETS	**56,925**	49,197
NET ASSETS	**294,646**	372,846
RESERVES		
Accumulated surplus on income and expenditure account	**56,925**	49,197
Capital fund	**237,721**	323,649
	294,646	372,846

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