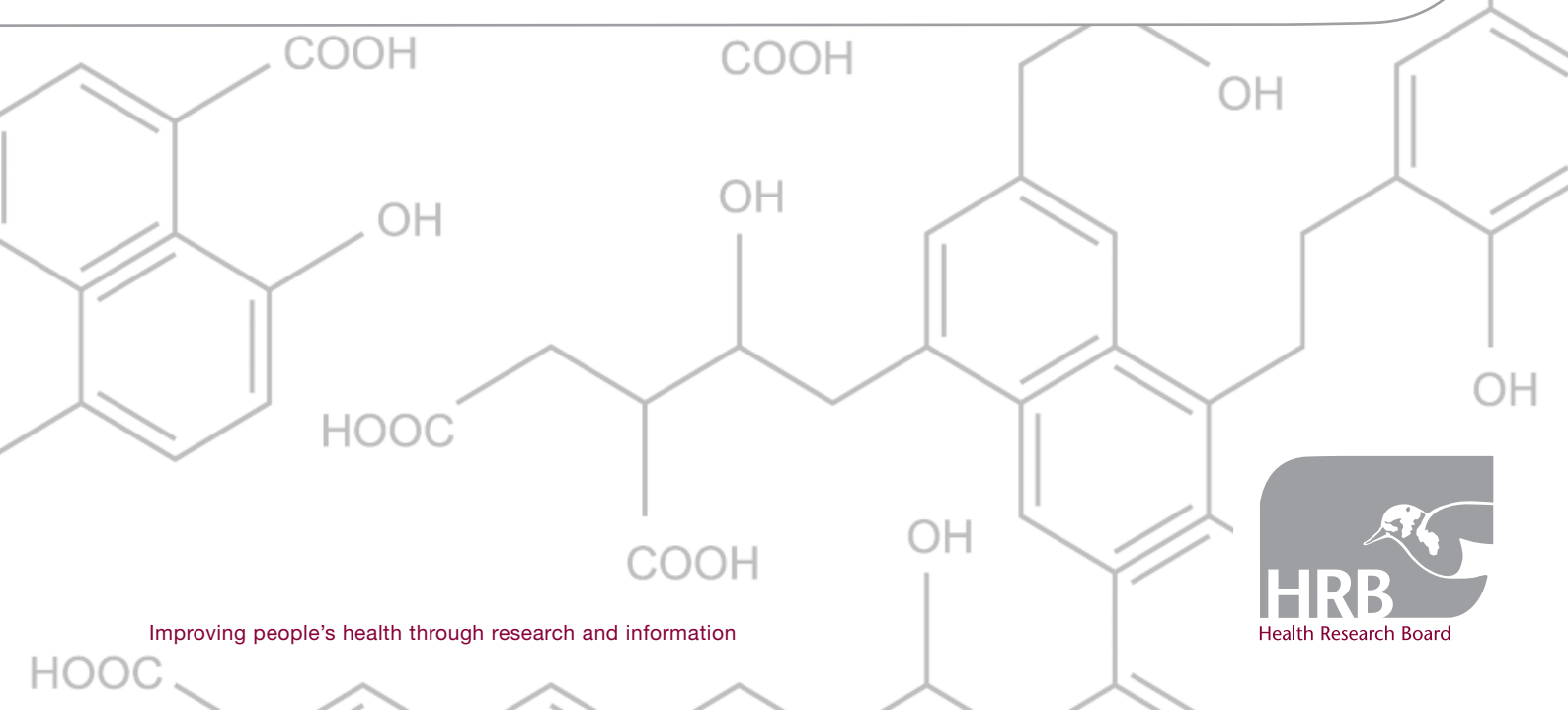


# HRB Annual Report 2007



Improving people's health through research and information



# About the HRB

The Health Research Board (HRB) is the lead agency in Ireland supporting and funding health research. The organisation also maintains health information systems and conducts research linked to national health priorities. Our aim is to improve people's health, build health research capacity, underpin developments in service delivery and make a significant contribution to Ireland's knowledge economy.

## Core areas of work

### Funding health research

Funding and supporting innovative health research to improve health, prevent illness and combat disease is central to the HRB's mission. The HRB currently has a portfolio of research investments worth €180 million in hospitals, academic institutions, health and social care agencies and medical research charities on the island of Ireland.

### Hosting information systems

The HRB is responsible for managing five national information systems. These systems ensure that valid and reliable data are available for analysis, dissemination and service planning. The data from these systems are used to inform policy and practice in the areas of disability, drug and alcohol use and mental health.

### Conducting research

Our main areas of in-house research include children's health, mental health, disability, alcohol and drug use. The research that we have undertaken provides evidence for changes in the approach to service delivery. It also highlights the requirement for additional resources to support people who need services for drug and alcohol misuse, mental health conditions and intellectual, physical and sensory disabilities.

### Corporate Strategy 2007–2011

In 2007 the Health Research Board launched a new Corporate Strategy. **Our vision** is to enable a world-class health system through excellence in research and to contribute actively to the knowledge economy. **Our mission** is to improve people's health through research and information.

We identified six objectives that would help us determine our actions and realise our vision and our mission. These objectives are as follows:

- Shape the national agenda for research in health and personal social services
- Support research and health information systems linked to national health priorities, in order to improve people's health and the effectiveness of the health system
- Build capacity for world-class health research in Ireland
- Advance the contribution that health research makes to a sustainable knowledge economy
- Increase awareness and understanding of both the impact and the value of health research and information
- Establish Ireland as a significant contributor to international policy on health research

This report outlines the progress that we have made in delivering these objectives during 2007.

# Health Research Board Annual Report 2007

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# Board members in 2007

In June 2007, the Minister for Health and Children, Ms Mary Harney, TD, appointed a new HRB Board. The ten members are:



**Dr Reg Shaw** (Chairman)  
Managing Director  
Wyeth Biotech, Dublin



**Dr Conor M Burke**  
Consultant Respiratory Physician  
James Connolly Hospital and  
Mater Hospital



**Professor Catherine Godson**  
Director  
UCD Diabetes Research  
Centre, University College  
Dublin



**Mr Michael Griffith**  
Chief Executive  
Fighting Blindness



**Dr Tony Holohan**  
Deputy Chief  
Medical Officer  
Department of  
Health and Children



**Mr Brian Kearney**  
Co-founder  
Project Management Group



**Professor Michael J Kerin**  
Professor of Surgery  
University College  
Hospital, Galway



**Dr Ena Prosser**  
Partner  
Fountain Healthcare Partners



**Professor Frances Ruane**  
Director  
Economic and Social  
Research Institute



**Mr Brian Sweeney**  
Chairman  
Siemens Ltd, Dublin

# Chairman's statement

Health research leads to better health, improves patient care and contributes to economic development. A strong health research environment also helps to attract and retain the best health professionals and deliver efficiencies in the health system. Since becoming Chairman at the HRB in 2007, I can see that health research has the potential to make real changes in people's lives.

The HRB is the lead agency responsible for ensuring that this health research potential is realised in Ireland. Our mission is to improve people's health through research and information, and through this we aim to deliver more effective treatments and medicines, provide efficient services, drive innovative new technologies and develop new evidence-based approaches to health care. The organisation achieves this in two main ways by:

1. Providing funding to support:
  - a. the development of people's research skills and capability
  - b. innovative projects and programmes
  - c. building infrastructure that will underpin a strong health research environment.
2. Conducting research and managing national information systems in the areas of mental health, alcohol and drugs, child health and disability.

The Board is committed to putting in place the strategy, policies, leadership and



**Dr Reg Shaw, Chairman**

resources to support these activities in the future. We also want to ensure that HRB-supported researchers deliver tangible benefits to improve people's health.

I wish to take this opportunity to congratulate staff for the progress made during 2007. I only touch on some of the key achievements here, but they are evident throughout this report and the results can also be seen in the hospitals and universities around the country.

In the past year, the HRB continued to attract first class proposals from exceptional researchers. Success is evident in:

- The research outcomes reported in 2007 on foot of HRB funding – highlights are included in this report.
- The number of excellent proposals received in 2007.
- An independent study we commissioned which showed that Irish researchers are publishing at a rate that is faster than the EU – 25 countries grouped together and that the impact of our research is increasing.

We also announced further infrastructural funding, jointly with the Health Service Executive for an HRB Clinical Research Facility (CRF) in Galway. This was as a result of a successful collaboration with the Wellcome Trust in 2006, which saw work commence on a CRF in Dublin in 2006. We also hope to announce another HRB CRF in Cork early next year.

During 2007, our in-house research team continued to deliver quality information and evidence for decision making. One new study looked at levels of psychological wellbeing and distress in Ireland. The report provides a strong baseline against which we can identify and monitor changes in people's psychological wellbeing and distress into the future and, in due course, determine where investments in services and treatment can have the best effect. Our first report in the area of alcohol looked at the health-related consequences of problem alcohol use. This report has been widely cited by many people, including health workers, media and researchers.

A major challenge faced by the Board was the vacant CEO post. I would like to commend Dr Ruth Barrington for the dedicated and professional manner in which she led the organisation for nine years, and for her enormous contribution to health research in Ireland. When she left in May, Dr Hamish Sinclair took up the challenging position of Acting Chief Executive. I would like to extend the Board's appreciation to Hamish for his commitment and guidance when we took up our positions in 2007. The Board have made it their core priority to appoint the new CEO in early 2008.

The outgoing Board and Chairman, Dr Des Fitzgerald, together with the staff at the HRB, have worked extremely hard to bring the HRB to its current position of strength. I am very optimistic that the new Board, working with the staff, can really take health research in Ireland to new levels and deliver practical health and social care benefits. I look forward to the challenge.

A handwritten signature in black ink, appearing to read 'R. Shaw', with a stylized flourish at the end.

Dr Reg Shaw, Chairman



# Chief Executive's report

In 2007, the HRB continued to focus on its mission to improve people's health through research and information. In an ongoing commitment to underpinning the development of a leading health research structure and culture in Ireland, the HRB invested €53 million in 2007 through a variety of grant schemes, increasing our total commitment in research funding throughout the Irish health research system to €180 million.

The most recent breakthroughs in research funded by the HRB were highlighted in the 2007 edition of *A Picture of Health*. The research spans a broad range of areas, from autism and heart disease to the impact of information technology on patient care and health care planning. The stories contained in *A Picture of Health* clearly illustrate the benefits for patients, the potential savings for government, and the ways that research evidence can be used to improve decision making in relation to health service delivery.

A significant development during 2007 was the announcement of funding of a Clinical Research Facility in Galway, jointly funded by the HRB and the Health Service Executive. This facility will provide a world-class environment for patient-focused research, with real benefits for patients. This is the second of three facilities to be funded by the HRB. The first, in Dublin, was announced in 2006 and the third, in Cork, will be announced in 2008.

An independent study commissioned by the HRB showed that Irish health research was



**Dr Hamish Sinclair, Acting CEO**

increasing its standing in the international literature. The study compared the output and related impact of publications in the field of health research from Ireland over the period 1999 to 2005 to international benchmarks. It showed that Irish health researchers were publishing at a rate that was increasing faster than the average of the EU-25 countries grouped together. The analysis also showed an increase in the impact rating of Irish health research publications in the same period. Compared to a world standard, Ireland is steadily improving its position, and has now reached the point where Irish health researchers are active at roughly the worldwide average impact level. The HRB takes great encouragement from the findings of this report which demonstrate real growth and progress in Irish health research.

Ireland has benefited greatly from previous EU Framework programmes, with our third-level and company-based researchers drawing down almost €200 million from the Sixth EU Framework Programme. To maximise Ireland's successful involvement in the Seventh EU Framework Programme (FP7), the HRB has taken an active role

and we are the National Contact Point for Health. We will provide advice and support for applicants who want to undertake a health related research project under FP7.

The health-related consequences of problem alcohol use were highlighted in a report published by the HRB in 2007. The report documents in a systematic way the rise in alcohol-related harm and disease over the last decade and the escalating pressure this has exerted on our health and hospital services. Given the link between levels of consumption and alcohol-related harm, there is a need to reduce alcohol consumption in Ireland. The report reviews the international evidence for successful measures to reduce alcohol consumption.

The levels of psychological distress among Irish people were surveyed by the HRB in 2007. While more than eight out of 10 people surveyed reported 'good' or 'very good' mental health, physical health and quality of life, the survey found that a significant number of people experienced mental or emotional problems. It is important that this fact is recognised and acknowledged by society so that informal and formal supports required by people experiencing distress are developed. The HRB survey will provide a strong baseline against which we can identify and monitor changes.

As part of our ongoing commitment to maintaining high-quality health information systems to inform policy and practice development, a national audit was carried out on the National Intellectual Disability Database during the year. Clinical staff from the Health Service Executive and from the non-statutory sector carried out interviews with service users, their key workers and

family members around the country. The findings of this audit will be used to test the accuracy of the information held on the database with a view to improving quality.

In May 2007, Dr Ruth Barrington stepped down as Chief Executive of the HRB. I would like to pay special tribute to Dr Barrington for her vision and passion for health research during her nine years in office. Through her untiring efforts, the HRB has gained a reputation as a highly professional and committed organisation dedicated to improving people's health through research and information.

I would also like to extend my thanks and appreciation to the former members of the Board, in particular the Chairman, Professor Desmond Fitzgerald, for their excellent leadership of the organisation during the last five years and for their commitment to developing the capacity of the HRB to support health research and information systems of the highest quality.

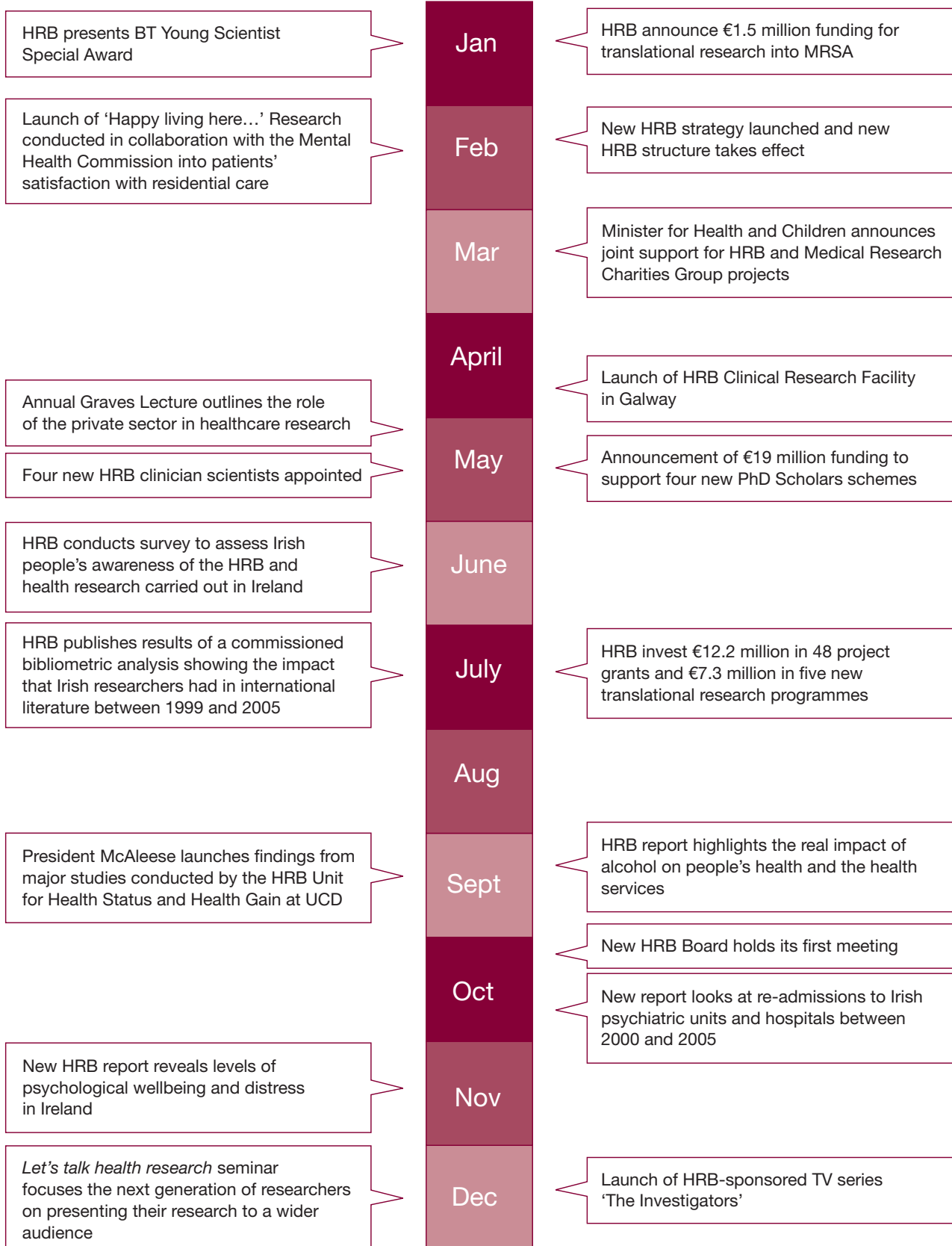
My special thanks to the present Chairman, Dr Reg Shaw, and to the members of the new Board for the encouragement and support they have given to me as Acting Chief Executive during 2007.

Lastly, I would like to acknowledge the extraordinary commitment and hard work of the staff of the HRB, whose dedicated efforts are reflected in the achievements reported here.

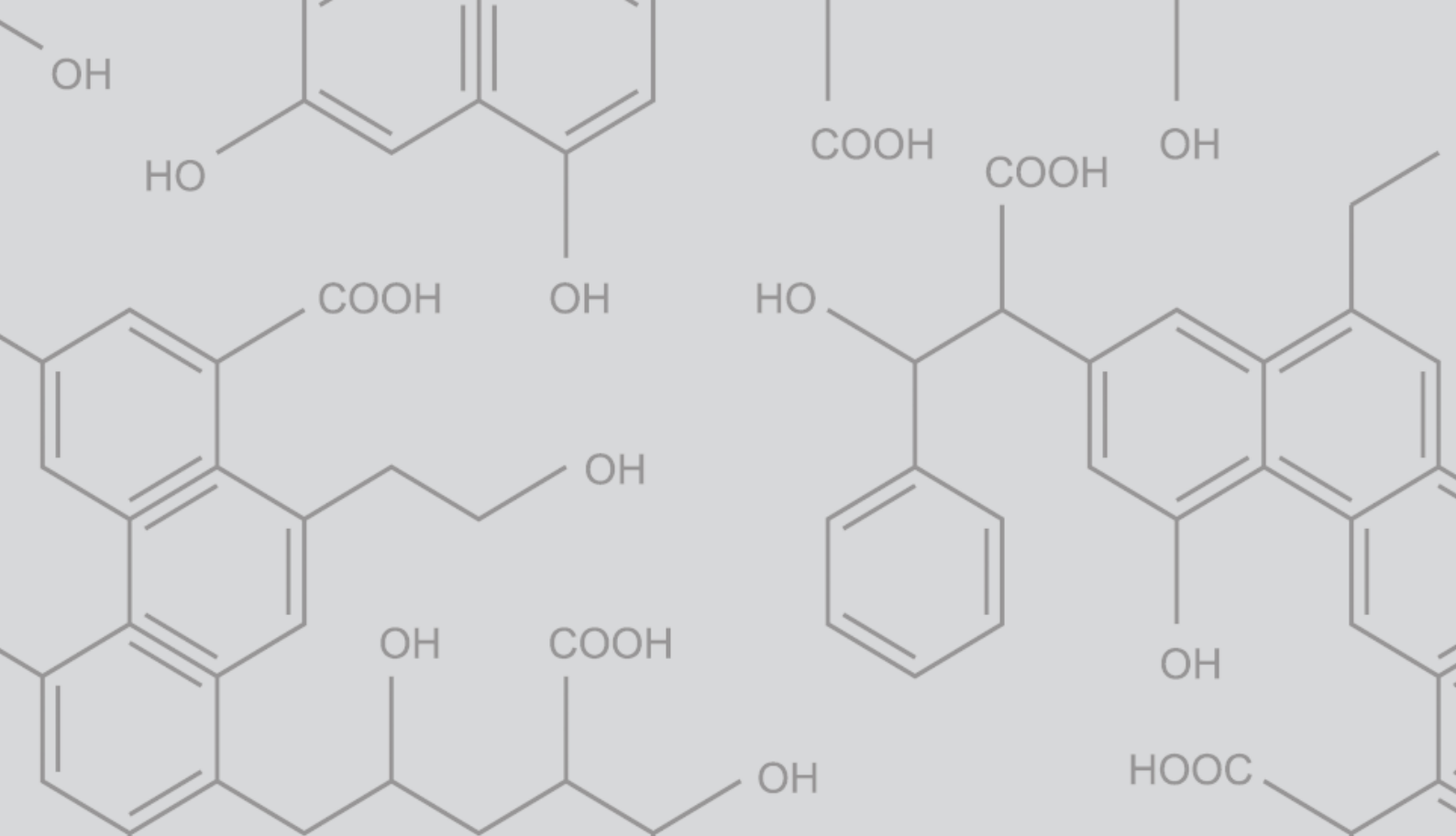


Hamish Sinclair PhD, Acting Chief Executive

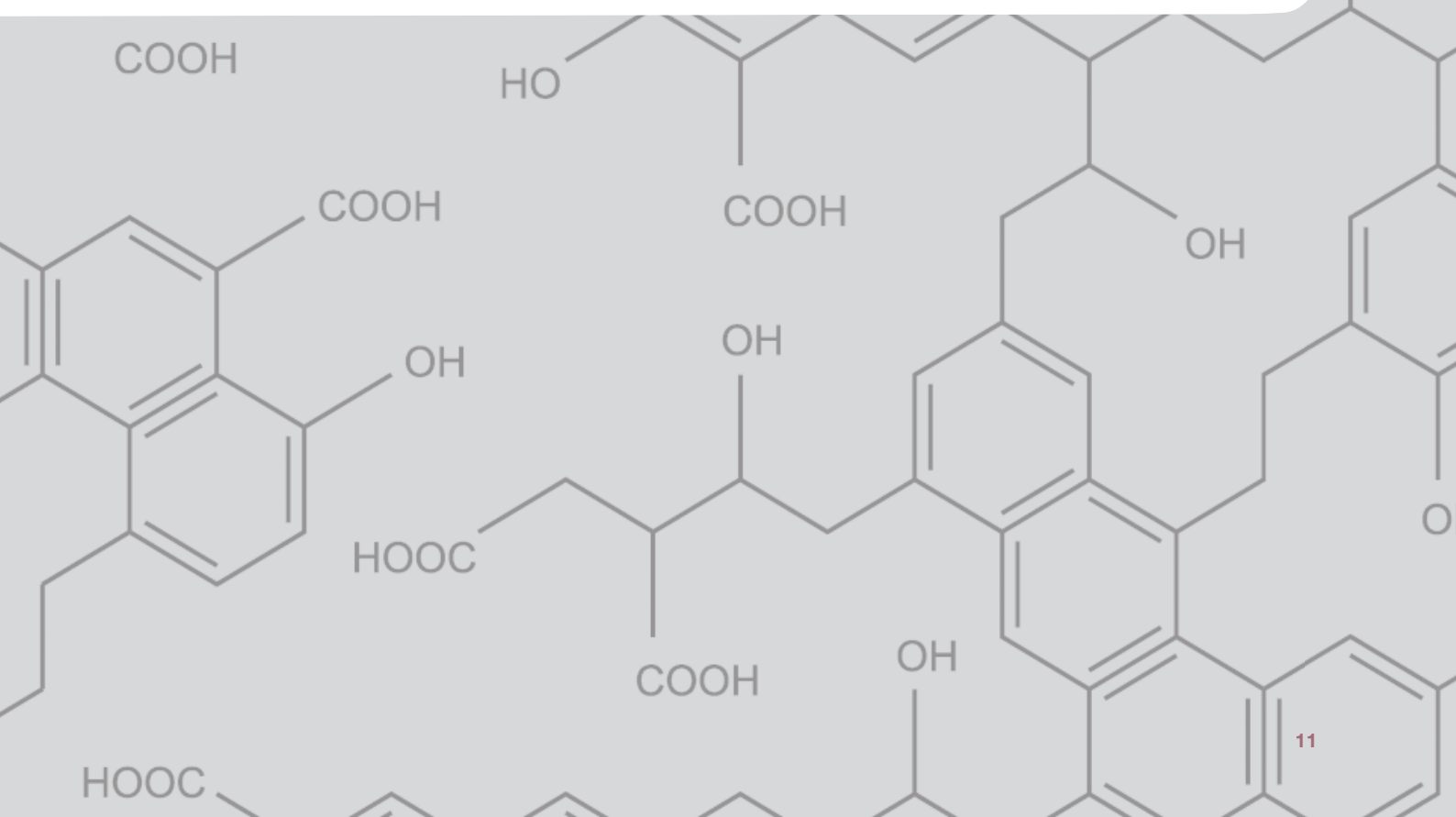
# The year at a glance







## Key activities and achievements in 2007



# Research strategy and funding

During 2007, the HRB awarded €53 million through a variety of grant schemes. In doing so, we increased our total commitment in research funding throughout the Irish health research system to €180 million.

We organised peer-review panels for 1,096 funding applications and, based on the recommendations of these panels, 382 awards were made. Success rates were high but, unfortunately, due to limited funding, it was not possible to provide funding support for a number of excellent proposals. A summary of funding awarded in 2007 is shown in Table 1 opposite.

## Investing in projects and programmes

### Translational research awards

The HRB has identified the development of capacity for world-class health research in Ireland – in particular the development of translational research – as a strategic priority. During 2007, we invested €7.3 million in a number of five-year translational research programmes. Our funding support will enable world-class teams of researchers to conduct research, tackle disease, prevent illness and improve patient care. It will also support the development of new or improved materials, devices, products and services.

### Health services R&D awards

Two new programmes were funded in 2007 under the Health Services R&D Awards scheme which is designed to support research related to the day-to-day practice of health service staff and to demonstrate the impacts that they make on the health or healthcare of service users. The HRB's investment in this important scheme now totals almost €10 million across 11 active research programmes. The two successful funding recipients were:

- Hilary Dunne, Irish Society for Quality and Safety in Healthcare. The title of her project is *The continuous evaluation of patient perception of acute hospital in-patient care in Ireland using the dashboard and map integration techniques.*
- Professor Colin Bradley, Department of General Practice, University College Cork. The title of his project is *Towards a national diabetes register for Ireland: theory, practice and policy.*



**Table 1** Summary of funding awarded in 2007

<b>Career Support Schemes and Capacity Building</b>	<b>Applicants (n)</b>	<b>Awards (n)</b>
Cochrane Fellowships	11	8
Summer Student Scholarships	171	56
NCI Summer Curriculum (Cancer Consortium)	26	18
Post-Doctoral Research Fellowships	60	8
Clinical Research Training Fellowships	26	6
Health Services Research Fellowships	25	4
Clinical Fellowships in Nursing and Midwifery	17	3
Cancer Prevention Fellowship (Cancer Consortium)	1	0
Clinician Scientists Awards	12	4
	<b>349</b>	<b>107</b>

<b>Research Grants</b>	<b>Applicants (n)</b>	<b>Awards (n)</b>
Building Partnerships for a Healthier Society Awards	7	4
Nursing and Midwifery Priorities Study	4	1
Health Services R&D Awards	14	2
Global Health Awards	14	3
Global Health Networking Awards	17	11
Project Grants	321	48
Translational Awards	26	5
	<b>403</b>	<b>74</b>

<b>Infrastructure Grants</b>	<b>Applicants (n)</b>	<b>Awards (n)</b>
Clinical Research Facilities	3	3
Health Research Centres	24	2
Junior Clinician Scientist for Nursing and Midwifery	1	1
Supplementary Funding for Infrastructure	2	1
	<b>30</b>	<b>7</b>

<b>Training and Workshops</b>	<b>Applicants (n)</b>	<b>Awards (n)</b>
HRB Scientific Writing Workshops	191	100
Cochrane Two-day Course on Systematic Reviews	47	42
Half-day Introduction to Cochrane Collaboration	73	50
Nursing Clinical Trials Training (Cancer Consortium)	3	2
	<b>314</b>	<b>194</b>

## Investing in infrastructure

### HRB clinical research facility for Galway

In May 2007, the HRB and the Health Service Executive (HSE) announced plans to jointly fund the establishment of a clinical research facility in Galway. The main aim of the HRB Clinical Research Facility, Galway is to provide the infrastructure – physical space, facilities and experts – needed to support patient-focused research studies. The investment by the HSE and the HRB will be of the order of €20 million over five years.

When fully operational, the facility will employ 20 people. It will provide patients with the latest advances in areas such as regenerative medicine, cancer, obstetrics and gynaecology, diabetes and inflammatory diseases. Support will also be provided for studies carried out in general practice settings through analysis of samples taken, provision of statistical support and co-ordination of studies. This will include research on the management of chronic diseases such as diabetes.



**Minister Harney announces HRB Clinical Research Facility in Galway**



**Prof Fergal Malone demonstrates how the 3D imaging equipment works**

### Imaging equipment

During 2007 the HRB awarded a once-off grant of €500,000 to Perinatal Ireland. This all-Ireland clinical research consortium, which was established with HRB funding, carries out research using the latest ultrasound technologies and equipment to improve the detection of growth abnormalities in babies while they are still in the womb. This grant will enable investigation of optimum ways to clinically manage women who are pregnant with twins, where the comparative growth of twins in utero differs significantly.

### Autism genome project

The HRB has provided funding for Irish researchers to participate in a leading international consortium that is aiming to find the gene responsible for causing autism. Over the next three years, the Autism Genome Project (AGP) will receive a total investment of €12 million from a variety of international organisations.

Irish researchers will play a major role in this project. The HRB funding will be used to support researchers analysing



data gathered in Ireland and around the world from a large sample population of families and individuals with autism. The researchers hope to be able to find a link between clinical and genetic information in patients – one that will enable them to create a better understanding of the factors that contribute to autism. Their findings will be critical for the development of diagnostics, targeted treatment and intervention.

The research will be carried out by the Irish Autism Genetics Collaboration, a partnership between researchers in Trinity College Dublin, University College Dublin and their associated hospitals, Tallaght Hospital, the National Centre for Medical Genetics and the Health Service Executive (HSE).



## Investing in people

### Clinician scientists awards

Four leading Irish medical consultants were awarded a total of €6.5 million by the HRB to dedicate a significant portion of their time to conducting research in their specialist areas. Over the period 2007 to 2011, the new HRB Clinician Scientists will focus on the hospital-acquired infection *Clostridium Difficile*, and on breast cancer,

pregnancy outcomes and neurological disorders.

These consultants, who will become HRB Clinician Scientists, are unique in the community of health researchers. They provide the link between clinical practice, the discovery of disease mechanisms and new diagnostic and therapeutic interventions.

### HRB clinician scientists appointed in 2007

- Professor John Crown, St Vincent's University Hospital and Dublin City University
- Dr Lorraine Kyne, Mater Hospital and University College Dublin
- Dr Louise Kenny, Cork University Maternity Hospital and University College Cork
- Dr Orla Hardiman, Beaumont Hospital and Trinity College

### PhD scholars programmes

Recent government reports have identified the need to increase the total number of researchers in Ireland required to support a national system of innovation by 2013. The Strategy for Science, Technology and Innovation (2006–2013) specifically highlights the importance of building a more structured and multidisciplinary fourth-level system – one which would be aimed at improving the quality of training for early-stage researchers and which would also be designed to meet the needs of an employment market which extends beyond the confines of academia.

In 2007, the HRB built on its leadership and investment in this area by announcing four new PhD Scholars Programmes. These four year programmes will have an intake of around six scholars each year from 2007 - 2010. In total, the programmes are valued at over €19 million. Details of the four new programmes are as follows:

**Subject area:** Cancer Biology – signalling systems and gene regulation

**Principal Investigator:** Professor Rosemary O'Connor (University College Cork)

**Subject area:** Immunology

**Principal Investigator:** Professor Paul Moynagh (NUI, Maynooth)

**Subject area:** Diagnostics and therapeutics for human disease

**Principal Investigator:** Professor Noel McElvaney (Royal College of Surgeons in Ireland)

**Subject area:** Health Services Research

**Principal Investigator:** Professor Hannah McGee (Royal College of Surgeons in Ireland) with partners in Trinity College Dublin and University College Cork

## Evaluation and external relations

### Irish health research increases in international standing

A new report commissioned by the HRB shows that Irish health research is increasing its standing in the international literature. The report analyses both the quantity and quality of Irish health research

publications between 1999 and 2005. It shows that health researchers in Ireland are publishing at a rate that is increasing faster than that in 25 EU member states combined, and in the UK, US and Finland. The analysis also shows an increase in the impact of Irish health research publications during 1999 and 2005. Ireland is now performing at a level above the EU average.

### HRB is now the focal point for health under FP7

We will advise and support researchers who wish to apply for funding under FP7. We will also try to ensure that all applicants are aware of the funding opportunities offered under the terms of the programme and that they are equipped to make successful grant applications. The HRB's International Liaison Officer is the nominated national contact for the scheme and may be contacted on +353 1 234 5188 or by email: [FP7@hrb.ie](mailto:FP7@hrb.ie).

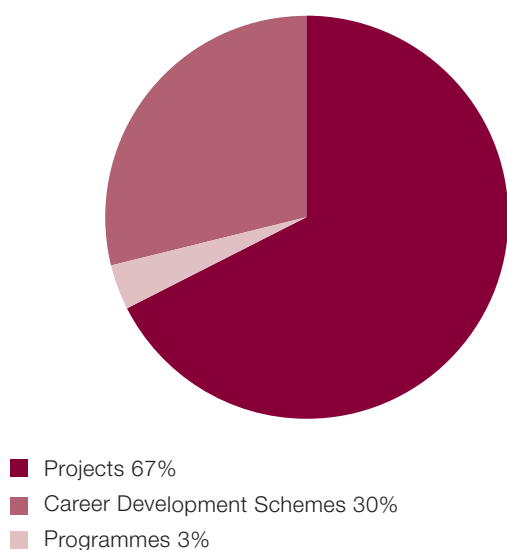


## Outputs and outcomes of HRB-funded research in 2007

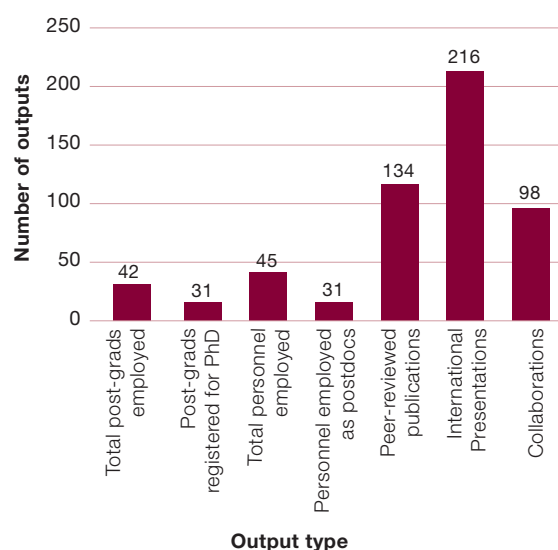
As part of our ongoing work programme, we evaluate the outcomes and impacts of all research initiatives funded by the HRB.

**Table 2** Outputs from grant funded activities in 2007.

Output Type	2007
Number of end-of-grant reports received:	<b>55</b>
<i>Project Grants</i>	36
<i>Fellowships</i>	17
<i>Programmes</i>	2
Number of post-graduate students employed on grant-funded projects	<b>42</b>
Number of PhD students	<b>31</b>
Total number of people funded through HRB grants	<b>45</b>
<i>Total number of those who are post-doctoral researchers</i>	31
<i>Total of other personnel funded (research nurses, research assistants, technicians)</i>	14
Total number of peer-reviewed publications from grants	<b>134</b>
Total number of international presentations delivered	<b>216</b>
Total number of new collaborations formed as a result of grant-funded research projects	<b>98</b>
<i>National collaborations</i>	39
<i>International collaborations</i>	59
Total number of patent applications filed	<b>2</b>



**Figure 1** Modes of funding – grants completed 2007



**Figure 2** Outputs from projects completed in 2007

## Outcomes from some of our funded research published in 2007

The first **professorship in primary care** was established in NUI Galway on foot of the HRB-commissioned report on primary care research in Ireland.

Georgina Gethin, RCSI, discovered that using Manuka honey on wounds was also effective in the treatment of **MRSA**.

Dr Joe Keane, St James's Hospital, identified biomarkers for the uploading or downloading of genes associated with the early onset of **lung cancer**.

Professor Luke O'Neill, TCD, identified a human protein in white blood cells which acts as a 'master switch' by turning on the **immune response to harmful bacteria** in the body. The research described how Mal, an important immune system protein, plays a major role in determining whether individuals become infected with, and ultimately succumb to, malaria. This discovery led to Professor O'Neill being named 'Doctor of the Year' at the 2007 Medical Oscars.

Professor John O'Leary, TCD, found that **new variant Irritable Bowel Disease (IBD)** changes over time, being more severe in young children and milder in young adults, thus providing some hope that over time it could burn out.

Dr Ceara Walsh, St Vincent's University Hospital, found that 20-30% of **rheumatoid arthritis (RA)** patients experience complete remission of the disease when put on anti-TNF therapy. Those in remission had more

T cells with a specific receptor protein – something which has not previously been observed in patients who suffer from RA.

Dr Michael Barry, St James's Hospital, found that there is an economic justification to **prescribe statins** for people whose risk of **Coronary Heart Disease (CHD)** is 15% or higher.

Dr Kathleen Bennett, St James's Hospital, demonstrated **regional variations** in the prescribing of **diabetes treatments**.

Dr Alan Keenan, UCD, has adapted the standard stent so that it can release drugs which could stop the vessel from re-narrowing, thereby **protecting the patient from further heart disease**.

Dr Fergal O'Brien, RCSI, identified the presence of **microcracks in bones**, brought on by everyday exercise and activity, and found that they are repaired by the body as part of a healthy bone replenishment cycle.

Professor David Coleman, TCD, discovered that hydrogen peroxide gas is effective at **killing the MRSA bug**.





Professor Cecily Kelleher's findings from the **five-year HRB Health Status and Health Gain Unit** study carried out at UCD and NUI Galway found that:

- More than one in ten underweight Irish children believe they are overweight.
- Greater state support is needed for families with young children.
- Children born to mothers who consume more fruit, vegetables and oily fish are less likely to be troubled by asthma.
- Poor health is cited as a contributory factor in an individuals' decision not to engage in political participation.
- The social and economic background of a child's mother and grandparents affects the health status of that child.

Dr Michael Gill, TCD, found that **children with ADHD** show no spatial bias, or tend to pay more attention to the right-hand side of a visual space. His study also revealed that having traits of Asperger's syndrome, enuresis (bed-wetting) and attachment problems makes response to methylphenidate less likely, while age, IQ and social class does not affect response to medication at all.

Professor John Feely, St James's Hospital, led a study which put forward a new set of **'quality prescribing indicators'** guidelines; these aim to familiarise prescribers with a range of regularly used drugs and provide access to back-up information on less commonly used drugs.

Professor Tom Cotter, UCC, discovered three proteins with three different modes of action which, in a laboratory setting, were shown to **stop retina cell death**.

At St Vincent's University Hospital, Dr Ronan Mullans, research confirmed that serum amyloid A activates angiogenesis, leukocyte recruitment and cartilage degradation in rheumatoid arthritis with equivalent potency to that of TNF alpha. This study won Dr Mullan the 2007 **IJMS Doctor Award in Rheumatology**.

At RCSI, Dr Cliff Taggart's work has helped to delineate the anti-inflammatory mechanism of SLPI. SLPI is a friendly protein produced in the lungs which dampens down the immune systems' inflammatory response, and disruption of its action may be a causal factor in diseases like emphysema and cystic fibrosis

This research succeeded in securing Dr Taggart the 2007 **IJMS Doctor Award in Respiratory Medicine**.

Dr Denis Shields, RCSI, found that **genetic variation** in resistance to infection is not a significant driving force behind differences in **heart disease risk between people**. A second study, which looked at genetic variants influencing platelet function, produced evidence of a significant link

between two specific gene variants and heart disease risk.

Dr Anne MacFarlane, NUI Galway, identified that **language barriers in relation to healthcare** are a significant problem, with patients reporting that they feel misunderstood by GPs. The study revealed that GPs believe the language-related communications difficulties are abating, while asylum seekers and refugees believe the opposite to be the case. This research contributed to the development of the HSE's first National Intercultural Health Strategy.

Rebecca Garavan, RCSI, discovered that **older people feel that there is a stigma associated with using services** such as home help.

Margaret McKiernan, UCC, found that **relatives of a patient in intensive care** see four things as being important during that time: the need to know, being there with the patient, making sense of it all, and care and support.

Dr Philip Larkin, NUI Galway, found that the **transition from palliative care to terminal care** created uncertainty and confusion in patients and resulted in giving them mixed messages. In some cases, the transition was not well handled by staff. However, once they settled in a hospice, patients began to feel more comfortable with themselves. The strong bonds and camaraderie in the hospice were also identified as being very important to patients.

At RCSI, Prof Hannah McGee's HESSOP-2 **study on ageing** led to the establishment

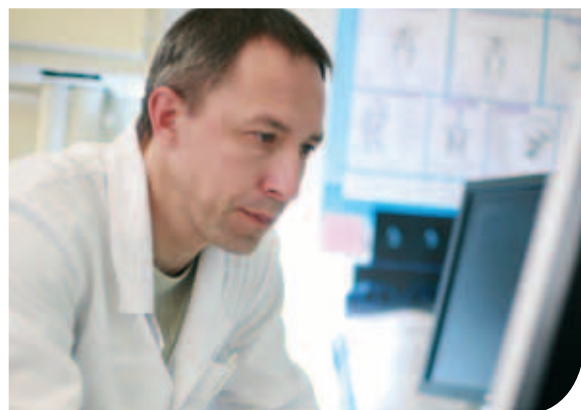
of the larger and longer study- the Irish Longitudinal Study on Ageing – which is currently under way.

Prof David Brayden, UCD, developed a laboratory and animal model to look at the **leakiness of the gut in Inflammatory Bowel Disease**, with a view to developing new therapies.

Prof Dermot Kelleher, TCD, discovered that the proteins which outer membrane vesicles encapsulate are disease-causing agents in their own right, and further characterisation of these virulence factors may lead to ways of blocking or antagonising them. In time, this has the potential to form **the basis for developing a vaccine against H Pylori**, which causes stomach ulcers and cancer.

Prof Colm O'Morain, Adelaide and Meath Hospital, discovered that elevated levels of Tumour M2-PK are related to pre-cancer and cancer of the colon. **This has potential as a non-invasive colorectal cancer screen** with high specificity and sensitivity.

Professor Cliona O'Farrelly, St Vincent's University Hospital, discovered **a new type of stem cell** in the human intestine, liver and uterus. If successfully harvested on a



large scale, these cells could replace the need for controversial embryonic stem cells.

Mary Fitzsimons, Beaumont Hospital, together with a multi-disciplinary team in the hospital, developed the **Epilepsy Electronic Patient Record**.

Dr Kevin McGuigan, RCSI, has shown how biofilms on the surfaces of **medical devices** are rapidly killed off by exposure to ultraviolet light.

Dr Katrina Comerford, UCD, has discovered a role for two molecules in the multi-drug resistance pathway which, if exploited pharmacologically, could reduce drug resistance.

Professor Joe Duffy, UCD, found that a protein, known as ADAM-17, is involved in **breast cancer spread**, and that measuring levels of the protein present in the body might help to **determine the aggressiveness of the cancer and dictate the severity of the treatment required**.

At TCD, Dr Joan Lalor's study of women's experience of carrying a child with **fetal abnormality** served to develop the 'Recasting Hope' theory; this describes the adaptation process a woman goes through that is associated with the loss of the 'perfect child' she assumed she was carrying.

Dr Kenneth Nally, Cork University Hospital, discovered a new molecular pathway which can act like a **tumour suppressor**.

Dr Amjad Hayat, St James's Hospital, found that it would be worthwhile including

measures of CD38 expression and cytogenetic abnormality during the routine assessment of patients with **chronic lymphocytic leukaemia**.

## Communicating the impact of health research

Each year the HRB continues to develop initiatives to encourage the research community to explain clearly the outcomes of their research.

### A Picture of Health: a selection of Irish health research 2007

*A Picture of Health* outlines details of the most recent breakthroughs in health research by 48 experts in five third-level institutions and eight hospitals throughout Ireland. The research was presented in 'editorial style' features and covered a broad range of areas from autism and heart disease, to the impact of information technology on patient care and healthcare planning.



## Let's Talk Health Research Seminar

Let's Talk Health Research was designed to provide the next generation of HRB-funded researchers with a good understanding of the importance of communicating their research and presenting it effectively to a lay audience.

During the day, a group of finalists, who had been selected through a competitive process, had the opportunity to present their work and to contend for the Watts Medal or one of the HRB research communication prizes. The winners were:

### The Watts Medal

Kristl Dorschner, Department of Pharmaceutical and Medical Chemistry, RCSI. The title of her presentation was *'TIN: A combinatorial compound universe'*.



**Kristl Dorschner, Watts medal winner 2007 with her colleagues at the Let's talk health research seminar.**

## The HRB research communication awards

- Dr Patrick Kiely, Department of Biochemistry, University College Cork. The title of his presentation was *'How RACK1 promotes cell migration in cancer'*.
- Sarah Jacobs, Department of Psychology, Trinity College, Dublin. The title of her presentation was *'Identifying the adolescent at risk of developing schizophrenia'*.



# Information systems and in-house research

The HRB makes a major contribution to improving health and developing the effectiveness of the health services through our in-house research and information activities. The information systems we manage require ongoing data collection and analysis to provide the most up-to-date evidence for service planning and decision making in relation to alcohol and drug use, mental health and disability. The real benefit of these databases is that they can draw attention to the areas where additional services are needed most. This is essential information that enables health service managers and policy makers to make more effective decisions about services for people who need them.

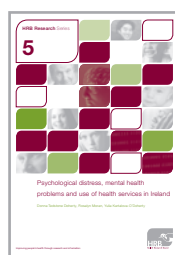
In addition to collecting the data, we publish reports that analyse the trends from the data collected. We are also engaged in a variety of research projects in relation to alcohol and drug use, child health, disability and mental health. During 2007 we created four series to reflect the HRB's work:



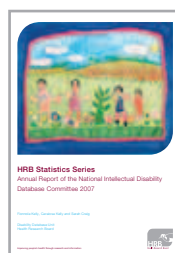
The **HRB Overview Series** reviews specific health or social issues in the areas of problem alcohol and drug use, child health, disability and mental health.



The **HRB Trend Series** monitors changing patterns and emerging trends in problem alcohol and drug use, child health, disability and mental health by analysing data over time.



The **HRB Research Series** reports original research material on problem alcohol and drug use, child health, disability and mental health.



The **HRB Statistics Series** compiles data on problem alcohol and drug use, child health, disability and mental health from a single point or period in time.

Some of the main findings from our research are highlighted below. (For a full list of our reports see Appendix: HRB Publications 2007.) All HRB reports are available on our website at [www.hrb.ie/publications](http://www.hrb.ie/publications).

## Key research findings

### The state of the nation's psychological health

The HRB conducted a survey on the psychological wellbeing and distress of the Irish population. The findings reveal that one in every seven people reported that they had experienced a mental, nervous or emotional problem during the previous year. Women are more likely than men to report having such problems. Almost one in ten people reported having spoken to their GP specifically about their mental health during the previous year. A total of 6% of respondents reported having used specialised mental health services during the previous year, and over 5% of respondents used other formal supports.

This survey provides a strong baseline against which we can identify and monitor changes in national psychological wellbeing and distress at regular intervals – every two years.

The report indicates that we need to recognise and acknowledge the extent of psychological distress among the Irish population and help remove the stigma associated with mental health problems. Recommendations emerging from the study focus on the need for:

- The availability of a range of supports including community-based initiatives and formal healthcare services.
- Further training for primary care services teams in the assessment and treatment of mental health problems.
- Patient access to a range of other mental health professionals who are more suited to the delivery of mental health care.
- Evaluation and development of the interface between primary care and specialised mental health services.
- Implementation of a shared-care model.

### **It's good to talk...**

Information from the National Psychological Wellbeing and Distress Survey was also used to examine the possible links between distress disclosure and gender, age, marital status and geographic location.

The research shows that people who were more willing to talk about their distress



had better mental health. The findings also showed that females and those in the younger age groups were most willing to disclose distressing information to others.

### **Re-admissions to Irish psychiatric hospitals and units**

A new report showed that one in three patients admitted to psychiatric units or hospitals in 2001 were admitted again, at least once, during the following five years. Seven per cent of these patients were admitted more than four times, which makes them 'frequent users'. Those most likely to be re-admitted included females, younger people and people who received a diagnosis of schizophrenia or drug dependence. The findings clearly indicate that the expansion of community-based services that has taken place to date has not reduced the need for in-patient treatment for people with enduring or recurring illness.

### **High-support community residence Census 2006**

In 2006, the HRB conducted a census of residents living in high-support community residential facilities operated by the mental health services. The census found that there were 1,412 people resident in 113

such facilities across Ireland. Half of these residents were aged between 45 and 65 years and more than a third were over 65. The number of residents per 100,000 of the population differed significantly between the HSE areas; this indicates that further investigation will be required in order to ensure that the provision of services is needs-based. The findings point to the lack of daily activities within these services. The authors of the report highlight that the purpose and functions of residences must be clearly defined and support must be provided so as to ensure that the needs of residents are met.

### **Impact of problem alcohol use on health and health services in Ireland**

A comprehensive new overview of the health-related consequences of problem alcohol use published by the HRB shows that alcohol consumption in the Irish population has increased by 17% over the past 11 years i.e. from 11.5 litres per adult in 1995 to 13.4 litres in 2006. The rise in consumption has led to increases in alcohol-related harm and disease, and has resulted in more than 1,775 deaths. This, in turn, has created escalating pressures on our health and hospital services.

The report provides strong evidence of the impact of alcohol-related illness on hospital services. The number of people discharged from hospital with alcohol-related problems or injuries increased by almost 90% between 1995 and 2004. In 2004, people with alcohol-related illness used 117,373 bed days in hospital – more than double the 1995 figure of 55,805 bed days.

### **Social rehabilitation measures needed to address problem drug use**

A new report illustrated the need to reduce homelessness, improve employment skills and increase education levels among problem drug users in order to increase their chances of rehabilitation and social reintegration. The report provides an overview of the availability of, and accessibility to, education, accommodation and employment support among drug users. The report also reviews how other countries have responded to what for problem drug users has become a ‘social exclusion’ issue – one which could undermine the effectiveness of the treatment they receive.

### **Disability Reports**

HRB reports on service provision and demand for people with intellectual, physical and sensory disability show that:

- More than 2,000 people with an **intellectual disability** will need full-time residential care between 2008 and 2012. Despite significant investment in intellectual disability services, and despite record levels



of service provision, 2007 marked the fourth successive year in which demand for full-time residential care reached an 'all time high'. In stark contrast, the demand for day services was at the lowest level ever recorded, thus indicating that significant progress continues to be made in the provision of day services.

- As of June 2007, nine out of ten people who were registered on the **National Physical and Sensory Disability Database** (NPSDD) were receiving services. However, despite high levels of service provision, NPSDD data show that large numbers of people are still awaiting assessment for a wide variety of services. The NPSDD Annual Report 2007 is based on 27,185 registrations. It is the only source of information at a national level about specialist services for people with physical and sensory disability. As a result, it plays a unique role in terms of informing service planning and highlighting the areas where services are needed most.

## New developments

### Child Health

The Child Health Epidemiology Unit started a new research programme in 2007 which seeks to quantify the extent of health inequalities among Irish children. It is hoped that the work will assist the development of informed and targeted policies to address this complex and important area of health. It involves a rigorous quantification of the extent of such inequalities and an analysis of the way factors related to health inequalities



cluster in different subgroups of the population.

### Impact of MAP

The National Physical and Sensory Disability Database includes a section on Measure of Activity and Participation (MAP). This consists of three parts – barriers and challenges, participation restriction, and the World Health Organization's Disability Assessment Schedule II. The MAP measure within the NPSDD captures information on the barriers to participation (physical environment, income, access to information) experienced by people with disabilities; it also captures information on the life areas (education, employment, socialising) in which this participation is experienced. WHODAS II is a standardised measure of the difficulty experienced in everyday activities; the fact that it is standardised enables us to compare our data with international data. In 2007, Issue 2 in the MAP bulletin series reported on WHODAS II data captured on the NPSDD.

'Disability News', a newsletter which profiles the work of the Disability Database Unit and related issues was launched in July 2007 and was well received by stakeholders.

## **National Documentation Centre (NDC)**

During 2007, the remit of the National Documentation Centre (NDC) was extended to include material on alcohol-related issues. Staff added over 400 volumes of such material to the centre's library collection, while two further specialist journals on alcohol topics were added to its periodicals collection. More than 40 researchers in the drugs and alcohol field added information about projects they are working on to the NDC's current research and evaluation database; details can be found on the HRB website [www.hrb.ie/ndc](http://www.hrb.ie/ndc).

Two new information resources were added to the NDC website: a database of theses dealing with drug and alcohol-related subjects in Irish universities; and a drugs policy page which provides information on bodies contributing to, or influencing the formulation of, Ireland's illicit drugs policy.

# Corporate developments

The Corporate Functions Directorate provides specialist skills that help support the effective delivery of HRB services.

Working in conjunction with the rest of the organisation, the Directorate focuses on aligning the corporate functions services to ensure the successful delivery of the HRB's corporate strategy and to ensure the delivery of value-for-money and effective governance aspects of the HRB's activities. The Directorate works to identify, assess and take advantage of new areas of opportunity and introduce new processes that will help improve the quality of the service we provide to our customers.

## **New Board**

In June 2007, the Minister of Health and Children appointed a new HRB Board which comprises representatives from the health services, academia and industry. A new governance handbook, which is designed to help Board members conduct their business in line with best practice, was produced during the year.

## **General Awareness Survey**

A survey conducted in June 2007 among 1,000 members of the public aged 15 years and over, found that three in every ten people living in Ireland are aware of the HRB. The face-to-face survey was conducted among a nationally representative sample of the population at 62 sampling points throughout Ireland.

A very general summary of the findings shows that:

- People aged between 35 and 64 years of age, who are of ABC1 status and are based in Dublin, are significantly more likely to be aware of the HRB.
- 61% of respondents agree or strongly agree that health research can have a positive effect on the delivery of health services.
- 64% of people surveyed are interested in finding out more about health research.
- 58% agree or strongly agree that there is not enough promotion of health research information; among these respondents, the preferred source of information is traditional media (papers/television/radio).

All of the data gathered during this survey will be used to further target and develop HRB communications activities aimed at the general public. The survey will also provide a benchmark against which we can measure awareness in the future.

## **Media coverage**

Work on the process of enhancing the profile of the HRB and its achievements continued during 2007. As a result of a proactive media programme, a total of 448 articles were published in national, regional and medical papers throughout the year. Coverage spanned 178,066 sq cm of news pages – an increase of 56,000 sq cm when

compared with coverage in 2005, the most recent year surveyed. Coverage in 2007 was valued at €1,084,415 in advertising equivalent. This represents an increase of €371,158 on the 2005 values.



- Assess what is required in order to achieve the Excellence Through Accessibility Award (ETA).

A key achievement of the group was ensuring that the new website content management system would support accessibility requirements.

### **Health and safety**

We are pleased that no health and safety incidents were reported during the course of the year.

### **Freedom of Information**

A total of three Freedom of Information requests were received during 2007. All requests were processed within the required time frames.

### **Accessibility**

During the year, an accessibility group was established to support the requirements outlined in the Disability Act 2005. The group's main focus was to:

- Ensure compliance with the Disability Act 2005.
- Raise awareness throughout the organisation.

# Working in partnership – a look at some collaborative work

## Health Service Executive

### The Galway Clinical Research Facility

One of the key developments in 2007 was the announcement of plans to establish the HRB Clinical Research Facility, Galway – the first such facility outside Dublin (see page 12). This development would not be possible without the support of the HSE; it will fund construction costs of the facility, while the HRB will cover the costs of providing the key expertise and staff needed to operate it.

### WISDOM – new comprehensive record of mental health care

WISDOM is an information system which will record in-patient and community care activity in the area of mental health. This joint initiative between the HSE and the HRB has been developed in response to the need to improve the data about community mental health services – an issue which was highlighted in the mental health policy document *'A Vision for Change'*.

In 2007 the proof of concept was formally approved by the HSE, and work began on implementing the proof of concept in Donegal. Work also began on the drafting of an information governance framework for WISDOM encompassing policy documents on privacy and confidentiality, consent, access and security. The HRB also worked closely with the HSE Health Atlas team to develop an interface between WISDOM and the HSE GeoDirectory so that health information can be geocoded at source.

## Disability

As part of our ongoing commitment to maintain high-quality health information systems which inform policy and practice development, a national audit was carried out on the National Intellectual Disability Database during the year. Clinical staff from the Health Service Executive and the non-statutory sector carried out interviews with service users, their key workers and family members around the country. The findings of this audit will be used to test the accuracy of the information held on the database with a view to improving quality.





Staff also chaired the research sub-committee of the National Working Group which was set up by the HSE to review day services for adults with a disability.

In 2007, the HRB was invited to join the Advisory Group for the TILDA project, a Trinity College-based longitudinal study on ageing. We were actively involved in the ageing and intellectual disability part of the study.

## **Ireland-Northern Ireland-NCI Cancer Consortium**

2007 saw the development of two new funding schemes under the Cancer Consortium. The Joint Research Projects in Cancer and the Health Economics Fellowship scheme were advertised during the year, and the first funding allocations will be made in early 2008. Both schemes involve the collaboration and exchange of researchers between Ireland and the US.

Cancer Clinical Trials have been funded and supported by the HRB for many years. The trials are co-ordinated through the All-Ireland Cooperative Oncology Research Group (A-ICORG). In 2007, 14 hospitals in Ireland and one hospital in Northern Ireland (funded by the R&D Office in Belfast) carried out 77 different trials involving the participation of 1,376 patients. Approximately half of these patients took part in clinical trials; others were recruited to join translational and tumour-banking studies which will help researchers to understand the disease and identify new approaches for treatment.

## **Irish Aid**

The HRB continued to work with Irish Aid during the year in line with a Memorandum of Understanding signed in 2006. The HRB and Irish Aid are committed to working together to support global health research and to increase research capacity in developing countries. In 2007, the HRB issued its second call for applications for the Global Health Research Awards scheme; three projects subsequently received funding. The awards scheme aims to generate high-quality research evidence directly related to the policy areas of the Irish Aid programme, and will build research capacity in developing countries. A further objective of the scheme is to promote international partnerships in global health research, with special emphasis on collaborative projects involving Irish research institutions and researchers from developing countries. A call was also issued for the new Global Health Networking Grants scheme; a total of 11 candidates were awarded a once-off grant to enable them to travel and network with research organisations in developing countries with a view to writing collaborative research proposals.

## **Medical Research Charities Group (MRCG)**

In March 2007, the Minister for Health and Children, Ms Mary Harney, TD, announced details of plans to provide government support for 33 research projects which are being co-funded by the HRB and a number of medical research charities. The projects are focused on a variety of common and rare diseases ranging from diabetes, cancer and retinal pigmentosa to epidermolysis bullosa and muscular dystrophy.

## **Cochrane activities on the island of Ireland**

In 2001, the Republic of Ireland and Northern Ireland became the first two places in the world to provide free public access to the Cochrane Library – a move made possible because both the HRB and the R&D Office in Belfast pay an annual subscription to the Library. The initiative has proved a great success; in 2007 alone more than 60,000 documents were downloaded by people on the island of Ireland from the Library's regularly updated collection of evidence-based medicine databases.

## **European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)**

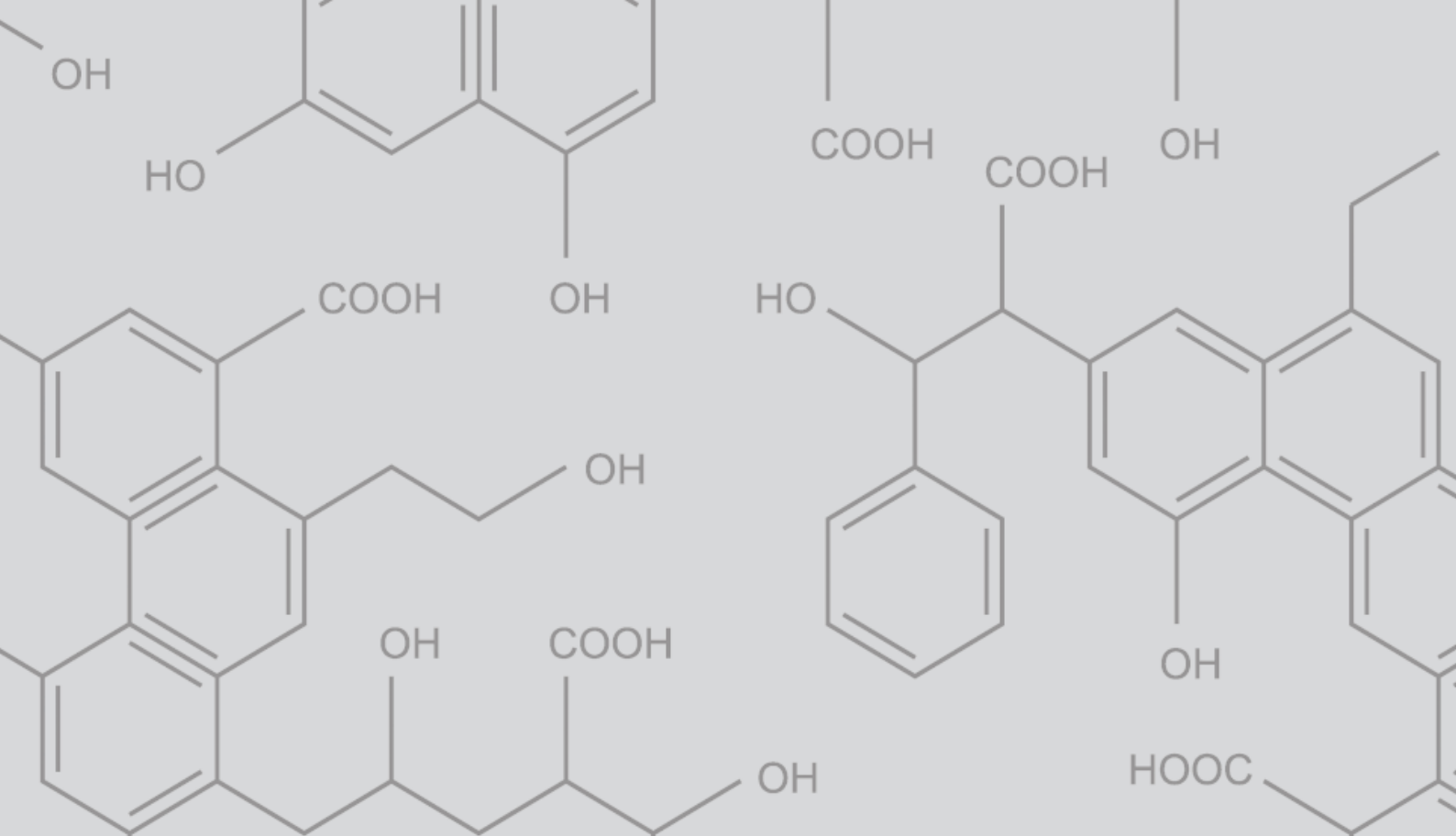
The Alcohol and Drug Research Unit is the designated Irish focal point for the EMCDDA and provides objective, reliable and comparable information on drugs and drug addiction from the Irish perspective. Researchers compile an annual report containing new information on the situation, consequences and responses to drug use in Ireland. This information is collected in a standardised way by all European focal points; therefore, valid comparisons can be made about current patterns and emerging trends in drug use in different European countries. The main areas of focus and comparison in 2007 were public expenditure on drugs, drug use among vulnerable groups of young people, and drug-related research in Ireland.

## **National Advisory Committee on Drugs (NACD)**

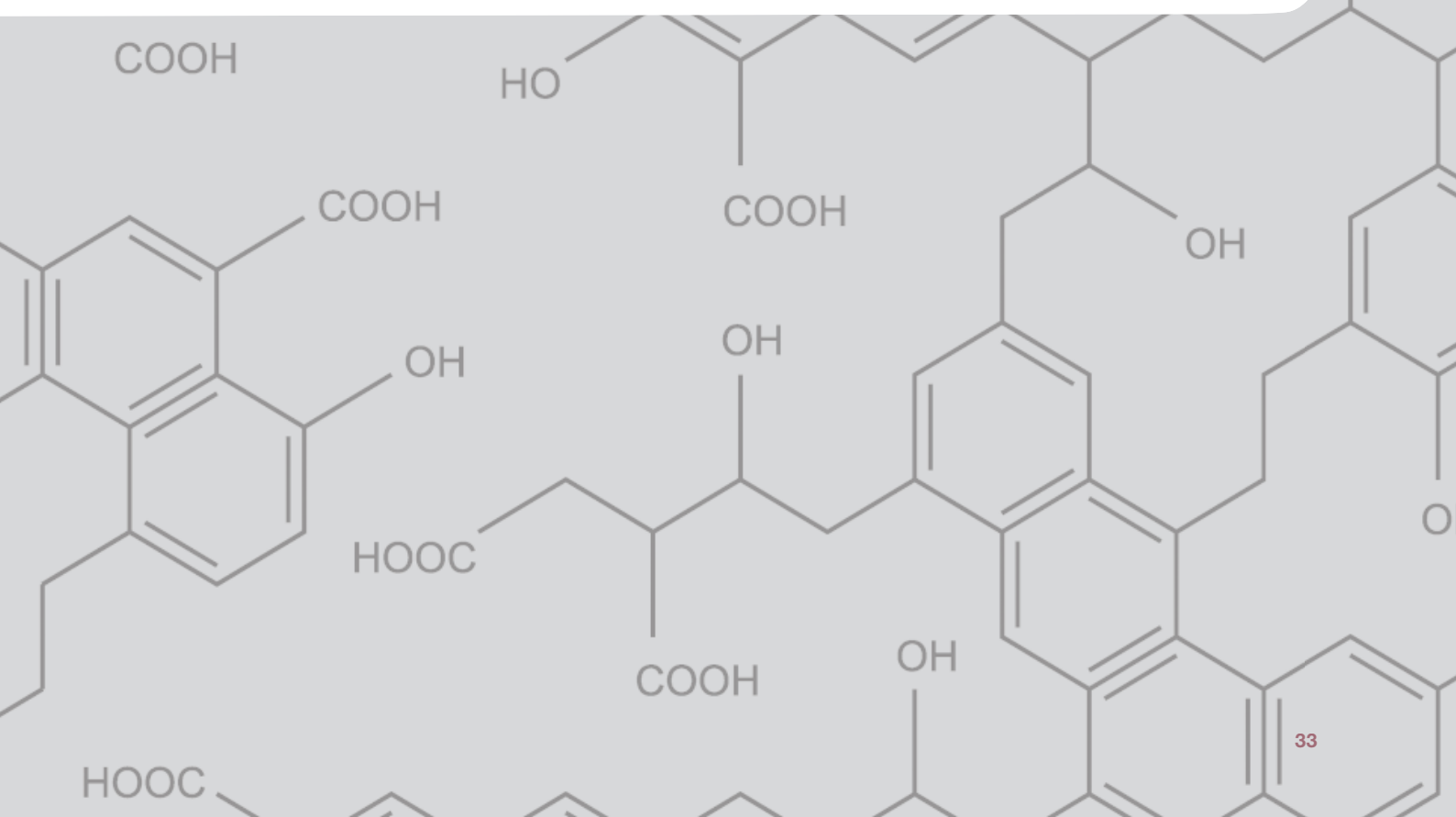
The Alcohol and Drug Research Unit works with the NACD to provide advice to the Government on problem drug use in Ireland in terms of prevalence, prevention, consequences and treatment. During 2007, the work programme focused on completing a draft of the findings of the second population survey on drug use; developing a tender to provide a new estimate of the number of opiate users in Ireland, and providing advice to the Government on the need for updated numbers of drug users testing positive for blood-borne viruses.

## **National Institutes of Health (US) and Trinity College Dublin**

The Child Health Epidemiology Unit continued its research into congenital malformations and other adverse pregnancy outcomes in conjunction with the National Institutes of Health (US) and Trinity College Dublin. During the year, the Unit produced two peer-reviewed publications.



## Summary of accounts



# Revenue Income and Expenditure Account

for the year ended 31 December 2007

	2007	2006
	€	€
<b>Income</b>		
Department of Health and Children Revenue Grant	36,085,000	30,353,000
Other Research Funding	3,033,254	3,580,551
Interest Receivable	35,188	51,317
Rental Income	37,552	52,899
Other Income	–	61,022
	<b>39,190,994</b>	<b>34,098,789</b>
<b>Expenditure</b>		
Research Strategy and Funding Directorate	32,004,323	32,876,393
Health Information Systems and In-House Research Directorate	3,650,086	2,842,462
Corporate Functions Directorate	3,400,850	2,672,507
Pensions Paid to Retired Members of Staff	69,892	5,347
Transfer to Capital Reserves Amount Allocated to Fund Fixed Assets	55,679	–
	<b>39,180,830</b>	<b>38,396,709</b>
<b>Surplus/(Deficit) For The Year</b>	<b>10,164</b>	<b>(4,297,920)</b>
Revenue reserve at 1 January	32,496	4,330,416
Revenue reserves at 31 December	42,660	32,496

# Capital Income and Expenditure Account

for the year ended 31 December 2007

	<b>2007</b>	<b>2006</b>
	<b>€</b>	<b>€</b>
<b>Income</b>		
Department of Health and Children Capital Grant	10,406,696	12,946,936
Amortisation of Capital Fund Account	109,303	132,911
	<b>10,515,999</b>	<b>13,079,847</b>
<b>Expenditure</b>		
Equipment Grants and Start-up Funding	595,103	2,039,854
Clinician Scientist Awards	2,212,205	1,662,855
Imaging Awards	1,552,433	4,618,635
Health Services R&D Awards	1,620,805	1,462,101
PhD Scholars Programme	1,456,899	–
Health Information Systems to underpin R&D Awards	–	1,060,848
Translational Research Awards	2,337,515	1,341,674
Clinical Research Centres	200,000	–
Commissioned Research	127,372	–
ICT Development	274,126	27,607
Contribution to Fixed Assets	30,238	115,668
Premises Costs	–	472,494
Corporate Strategy Consultancy	–	145,200
Depreciation	109,303	132,911
	<b>10,515,999</b>	<b>13,079,847</b>
<b>(Deficit)/Surplus For The Year</b>	<b>–</b>	<b>–</b>

# Balance Sheet

as at 31 December 2007

	<b>2007</b>	<b>2006</b>
	<b>€</b>	<b>€</b>
<b>Fixed Assets</b>		
Tangible Assets	320,544	354,124
<b>Current Assets</b>		
Debtors	550,196	1,342,231
Investments	641	641
Cash at Bank and on Hand	400	450,400
	<b>551,237</b>	<b>1,793,272</b>
<b>Current Liabilities</b>		
<i>Amounts falling due within one year:</i>		
Bank	17,807	16,057
Creditors	490,770	1,744,719
	<b>508,577</b>	<b>1,760,776</b>
<b>Net Current Assets</b>	42,660	32,496
<b>Net Assets</b>	363,204	386,620
<b>Reserves</b>		
Accumulated Surplus on Income and Expenditure Account	42,660	32,496
Capital Fund	320,544	354,124
	<b>363,204</b>	<b>386,620</b>

# Appendix: HRB Publications 2007

Alcohol and Drug Research Unit (2007)  
*Drugnet Ireland*. Issue 21, Spring. Dublin:  
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Reporting System (NPIRS) HSE Dublin Mid-  
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Dublin: Health Research Board.

- Disability Databases Unit (2007) *Disability News*. Issue 1, Summer. Dublin: Health Research Board.
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- Fanous AH, Neale MC, Webb BT, Straub RE, Amdur RL, O'Neill FA, Walsh D, Riley BP and Kendler KS (2007) A genome-wide scan for modifier loci in schizophrenia. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*, 144(5):589–95.
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