



HRI

health research institute

**Annual
Report
2017**



UNIVERSITY of LIMERICK

OLLSCOIL LUIMNIGH

Conducting
outstanding
research that will
**improve the health
& wellbeing of
individuals** and
transform the
health ecosystem

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Message from the Director

It is my great pleasure to introduce the Annual Report of the Health Research Institute (HRI) at the University of Limerick, which highlights key achievements and the pioneering spirit of its broad interdisciplinary membership

The HRI was founded in 2015 with the key strategic goal of conducting outstanding research to improve the health and wellbeing of individuals and transform the health ecosystem. In keeping with this philosophy, we have identified four key areas of research strength, including: Lifestyle & Health, Health Services Delivery, Health Technologies and Patient & Public Involvement. We have focussed our collective efforts in these areas and continued to expand our engagements with local, national and international partners.

We are delighted to report that our funders have recognised the importance of these research and some of our successes in 2017 include:

- A new HSE-funded intervention trial led by Prof. Catherine Woods – the first of its kind in Ireland – will examine whether a peer-mentored intervention will promote physically active lifestyles among older adults.
- Closer collaboration with the UL Hospitals Group, our main hospital partner, has forged new research partnerships that will evaluate the impact of socioeconomic factors on length of stay and the allocation of hospital funding. This project is led by Prof. Cathal Walsh and is funded by the Health Research Board Applied Partnership Award.
- The practice of medical device innovation combined with clinical immersion was further advanced by Dr Leonard O’Sullivan with a funding award from Enterprise Ireland to develop new devices to improve the lives of people using central venous catheters.
- Successful collaborative partnerships between UL, the HSE and community partners secured a Health Research Board Public and Patient Involvement in research (PPI) Ignite Award for the HRI led by Prof. Anne McFarlane and places the HRI in pole position to conduct high-quality health research that will meaningfully involve patients and the public so we can collaboratively develop care and treatments that genuinely answer people’s needs.

These are only a few of our successes. In 2017, members of the HRI were awarded 46 successful grants totalling over €3.7 million, published 69 peer-reviewed papers and supervised 29 students to receive Master's or PhD research degree awards. The HRI mission of training and research mentorship has continued to flourish with high-impact research seminars, the Foundation Series in Clinical Research and a PPI Summer School.

A number of other exciting events took place in 2017. Early in the year, our Clinical Research Support Unit (CRSU) moved into the new state-of-the-art Clinical Education and Research Centre (CERC) at University Hospital Limerick. This expanded infrastructure was designed to enable clinical research teams to support a larger portfolio of clinical studies and clinical trials.

The Health Research Symposium 2017 was the grand finale to a successful year that brought over 250 delegates to a wonderful exposition of research findings in health sciences at the CERC building. Opened by Prof. Colette Cowan, CEO UL Hospitals Group, the Symposium explored the theme of "Building Partnerships to Advance Healthcare Research and Practice" with keynote lectures from Prof. Harry Hemingway, University College London; Dr Leonard O'Sullivan, University of Limerick; Prof. Richard McManus, University of Oxford; and Prof. Martin O'Donnell, NUI Galway.

The end of 2017 also marked the end of Prof. Austin Stack's term as Director of the HRI. We all wish Prof Stack well in his future work and are grateful for his important contribution to the developments of the HRI. As incoming Director of the HRI, and Executive Dean of the Faculty of Education and Health Sciences at the University of Limerick, I look forward to working with HRI team, members, partners and stakeholders in 2018, as we continue to advance our strategic goals: develop further our thematic areas, expand our clinical and technological research facilities, generate new national and international partnerships, and build capacity in research training.



Prof. Rachel Msetfi
HRI Director



Prof. Austin Stack

Mission, Vision and Goals

Mission

The HRI will conduct outstanding person-centred research to enhance health and wellbeing of individuals and transform the health environment for the population.

Vision

By 2020, the HRI will be an internationally recognised research institute that delivers excellent research with impact in areas of Lifestyle & Health, Health Services Delivery, Health Technologies and Patient & Public Involvement (PPI). It will foster a culture of interdisciplinary research collaborations to support discovery and innovation in health and wellbeing while also enhancing research training.

To realise this vision, we are committed to building and supporting a culture of research excellence and impact that will enhance our international reputation and become a point of pride and a key aspect of our identity.

Goals

By specifying strategic goals to be achieved over the next five years, the HRI is identifying a roadmap to be followed for realising its vision. The strategy identifies a number of objectives with respect to each goal, and each objective is associated with a number of specific action items and targets/outcomes.

The success of the HRI is based around the achievement of the following four strategic goals:

Research Excellence	Deliver excellent research to establish our reputation as a health research institute.
Impact	Leverage our position as the bridge between the clinically based and university-based researchers to make an impact on patient health and wellbeing.
People and Ecosystem	Invest in and empower our people through a culture of excellence and impact.
International Reach	Extend our international reach by engaging in collaborative partnerships and disseminating research.

Introduction to HRI

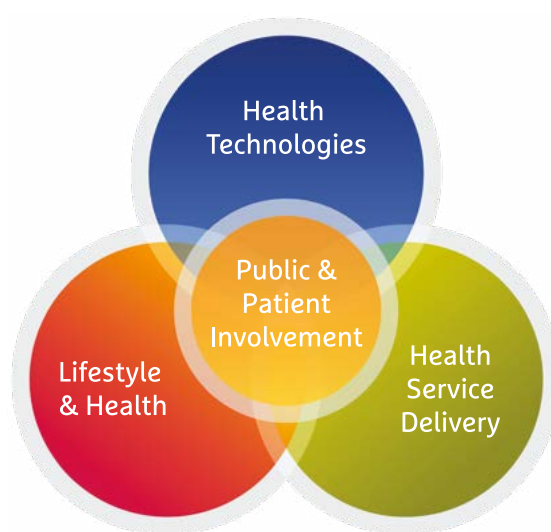
The establishment of the Health Research Institute (HRI) at the University of Limerick represents a major milestone and an ambitious plan in the development of the University's overall strategic goals to nurture and develop an international reputation in health-related research. The development of a unique health ecosystem that promotes and embeds health and wellbeing research across the traditional boundaries of health systems, with engagement of multiple stakeholders, is a key element.

The institute capitalises on several distinctive strengths and capabilities that have emerged in the University's development over the past 15 years. The development of strong, internationally competitive research portfolios in the areas of Lifestyle & Health, Health Services Delivery, Health Technologies and Patient & Public Involvement (PPI) represents unique opportunities where the University of Limerick can forge distinctiveness and make real advances to become a global health leader. Building on earlier successes, the institute advances interdisciplinary research that will bring about innovative solutions to disease prevention, healthcare delivery, and the health and wellbeing of the population.

The HRI strategic plan articulates our vision and commitment to creating critical mass and expertise in health research by establishing key priorities and outlining major milestones and targets, and describes the supportive framework required to achieve our ambitions. The cornerstone of this ambitious strategy is based on a research culture that encourages person-centred interdisciplinary research, fosters research partnerships and empowers our research staff to conduct world-class research and become international research leaders.

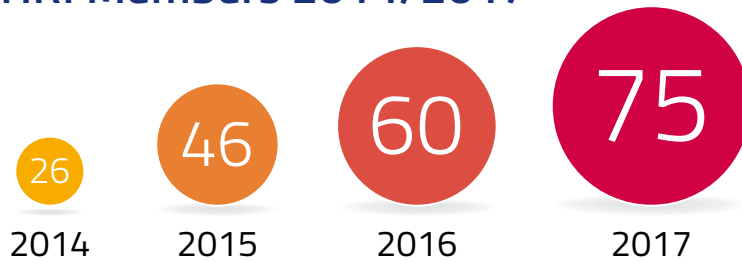
This strategy is fully aligned with the goals of both the University of Limerick's Strategic Plan *Broadening Horizons 2015–19* and the Research and Innovation Strategy *Excellence and Impact 2020*. Our strategy was developed in partnership with our HRI members and after consultation with our health research community.

This 2017 annual report summarises the achievements of members towards realising the strategic goals outlined above.



Members and Events

HRI Members 2014/2017



Prof. Catherine Woods

Appointed Chair in Physical Activity and Health in 2016

HRI Member Quotes

As an early-career researcher, I have received excellent support from the HRI. I have been provided with access to stellar content and methodological research expertise, excellent administrative and technical support (grant writing) and individualised guidance on potentially suitable international and national grant funding calls. The collaborative focus of the HRI has raised my awareness of the importance of interdisciplinary research, capable of producing actionable evidence. To this end, membership of the HRI has enabled me to strengthen existing collaborations and develop new networks with clinical and academic colleagues.

Dr Sara Hayes

Lecturer in Physiotherapy

For me, the HRI have been essential to making my transition to UL successful. From day one the HRI was instrumental in helping me to negotiate the UL grant submission process. The HRI has served as a shortcut, a system through which I could ask questions, seek advice and importantly network internally to determine where the institution's expertise lies. The HRI team are up to date, well informed and supported, capable of forward planning and as I have experienced willing to assist with any issue, no matter how complex.

Being a member of the Health Research Institute has afforded me the meaningful opportunity to discuss my research with medical staff and clinicians. This has resulted in a number of joint papers, research projects, and the potential to work on a further research proposal. I have also given talks in the grand rounds within University Hospital Limerick and have been asked to speak at healthcare conferences. I believe these would not have happened if I had not been a member of the HRI."

Prof. Ita Richardson

Associate Professor in Department of Computer Science and Information Systems



The HRI has a particular focus on **supporting new and emerging investigators** to develop their research careers.

HRI Members

Name	Department/School
Dr Declan Aherne	Counselling Services
Dr Ross Anderson	Physical Education and Sport Sciences
Dr Pauline Boland	School of Allied Health
Dr Ciara Breathnach	History
Dr Roisin Cahalan	School of Allied Health
Dr Brian Carson	Physical Education and Sport Sciences
Dr Amanda Clifford	School of Allied Health
Prof. Calvin Coffey	Graduate Entry Medical School
Dr Jakki Cooney	Biological Sciences
Prof. Susan Coote	School of Allied Health
Dr Barry Coughlan	Psychology
Dr Niamh Cummins	Centre for Prehospital Research
Prof. Alan Donnelly	Physical Education and Sport Sciences
Prof. Colum Dunne	Graduate Entry Medical School
Dr Khalifa Elmusharaf	Graduate Entry Medical School
Prof. Dick Fitzgerald	Biological Sciences
Prof. John Forbes	Graduate Entry Medical School
Prof. Donal Fortune	Psychology
Dr Romina Gaburro	Mathematics and Statistics
Prof. Stephen Gallagher	Psychology
Dr Rose Galvin	School of Allied Health
Prof. Liam Glynn	Graduate Entry Medical School
Dr Andreas Grabrucker	Biological Sciences
Prof. Ailish Hannigan	Graduate Entry Medical School
Dr Kevin Hayes	Mathematics and Statistics
Dr Sara Hayes	School of Allied Health
Dr Amanda Haynes	Sociology
Dr Matthew Herring	Physical Education and Sport Sciences
Dr Siobhan Howard	Psychology
Prof. Phil Jakeman	Physical Education and Sport Sciences
Dr Norelee Kennedy	School of Allied Health
Dr Ian Kenny	Physical Education and Sport Sciences
Dr Patrick Kiely	Graduate Entry Medical School
Dr Stephen Kinsella	Economics
Dr Louise Larkin	School of Allied Health
Dr Ciarán MacDonncha	Physical Education and Sport Sciences
Prof. Anne MacFarlane	Graduate Entry Medical School
Dr Tadhg MacIntyre	Physical Education and Sport Sciences

Prof. Tiziana Margaria	Computer Science and Information Systems
Dr Triona McCaffrey	Irish World Academy of Music and Dance
Dr Arlene McCurtin	School of Allied Health
Dr Karen McCreesh	School of Allied Health
Prof. Kieran McDermott	Graduate Entry Medical School
Dr Kieran McGourty	Chemical Sciences
Dr Jennifer McMahon	School of Education
Dr Pauline Meskell	Nursing and Midwifery
Prof. Lee Monaghan	Sociology
Dr Hilary Moss	Irish World Academy of Music and Dance
Prof. Rachel Msetfi	Psychology
Prof. Orla Muldoon	Psychology
Dr John Mulvihill	School of Engineering
Prof. Fiona Murphy	Nursing and Midwifery
Dr Sylvia Murphy Tighe	Nursing and Midwifery
Dr Catherine Norton	Physical Education and Sport Sciences
Dr Eibhlís O'Connor	Biological Sciences
Prof. Clodagh O'Gorman	Graduate Entry Medical School
Dr Bernadette O'Regan	Chemical Sciences
Dr Pauline O'Reilly	Nursing and Midwifery
Dr Deirdre O'Shea	Personnel and Employment Relations
Dr Kieran O'Sullivan	School of Allied Health
Dr Leonard O'Sullivan	School of Design
Dr Helen Purtil	Mathematics and Statistics
Prof. Ita Richardson	Computer Science and Information Systems
Dr Katie Robinson	School of Allied Health
Dr Jon Salsberg	Graduate Entry Medical School
Dr Jean Saunders	Mathematics and Statistics
Dr Jennifer Schweppe	Law
Dr Maria Semkovska	Psychology
Dr Eimear Spain	Law
Dr Audrey Tierney	School of Allied Health
Prof. Cathal Walsh	Mathematics and Statistics
Prof. Michael Walsh	School of Engineering
Dr Giles Warrington	Physical Education and Sport Sciences
Prof. Catherine Woods	Physical Education and Sport Sciences
Dr Ioannis Zabetakis	Biological Sciences

HRI Staff and Executive Committee

Name	HRI Role	Institute / School / Dept	Faculty
Dr Mary Clarke Moloney*	Clinical Operations Manager	HRI	
Prof. Alan Donnelly*	Theme Lead in Lifestyle & Health Research, HRI	Physical Education and Sport Sciences	EHS
Dr Imelda Doolan	Research Funding Officer	HRI	
Dr Rose Galvin*	Theme Lead in Health Service Delivery, HRI	School of Allied Health	EHS
Prof. Stephen Gallagher*	Assistant Dean Research EHS	Psychology	EHS
Ms Irma Hourigan	Project Manager	HRI	
Ms Karen Kemmy	Senior Administrator	HRI	
Prof. Anne MacFarlane*	Theme Lead in Public & Patient Involvement, HRI	Graduate Entry Medical School	EHS
Prof. Rachel Msetfi*	Director HRI	Dean's Office	EHS
Prof. Michael Walsh*	Theme Lead in Health Technologies, HRI	School of Engineering	S&E

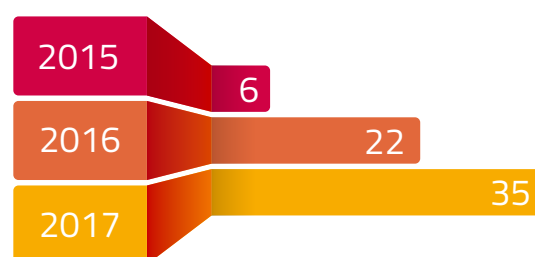
* Member of Executive committee

HRI Events

In 2017, the HRI ran over 35 events to build research capacity, increase networking opportunities and enhance the national and international impact of research for academic, clinical and research staff.

These included a series of grant writing workshops focused on health-related national and international funding calls, an academic writing series, a PPI summer school, workshops on increasing research impact, a research methods short course, keynote lectures from national and international speakers, lunchtime seminars, networking meetings and our annual Health Research Symposium. The following events give a flavour of the range of activities offered by the HRI in 2017.

Total Events 2015-2017



Irish Cancer Society

In February 2017, the HRI through Dr Pat Kiely invited Dr Robert O'Connor (Head of Research, Irish Cancer Society) and Dr Isabella Bray (Research Manager, Irish Cancer Society) to UL. The Irish Cancer Society is Ireland's largest cancer charity and the largest charitable funder of cancer research in Ireland. The primary objective of the visit was to increase the awareness of HRI members regarding the research activities funded by the Irish Cancer Society and to ensure that the Irish Cancer Society had an opportunity to meet UL-based researchers whose interests are in the cancer research domain. The event comprised a lunchtime seminar followed by an interactive question and answers session and several one-to-one meetings with academic and research staff at UL. To maximise the impact of the visit, Dr Kiely chaired an evening talk that was supported by the HRI and open to all UL staff and the public. The event took place in the Graduate Entry Medical School and was attended by a large audience including research scientists, medical students and members of the public. Dr O'Connor delivered a talk entitled "Cancer: Debunking the Myths". This generated a lively debate and The Irish Cancer Society streamed this talk on Facebook Live, which captured thousands of views.



Dr Pat Kiely (GEMS and HRI), Dr Robert O'Connor (Head of Research, Irish Cancer Society) and Prof. Michael Walsh (SoE and HRI)

National Summer School in Public and Patient Involvement

The HRI ran a **National Summer School in Public and Patient Involvement** in June 2017. In its second year, this has gained a reputation as a high-quality, interactive event for researchers and stakeholders from community and health sector settings. Attended by almost 50 delegates, the programme included keynotes from Mr Philip Watt, Chairperson of the Irish Medical Research Charities Group and Dr Anne Cody Head of Pre-Award from the Health Research Board. Along with external facilitators for workshops,

a number of UL staff were involved – Prof. Maura Adshead, Prof. Ailish Hannigan, Dr Maria Roura and Dr Nancy Salmon. There was a PPI Summer School Buffet for more informal networking in the evening. The HRI Core Team provided key administrative and project management support throughout.



Dr Anne Cody (Head of Pre-Award at HRB) and Prof. Anne MacFarlane (GEMS and HRI)



Prof. Maura Adshead (Associate Prof. in Politics and Public Administration), Prof. Anne MacFarlane (GEMS and HRI) and Alphonse Basogambo (Chairperson Intercultural and Diversity Education Centre)

Systematic reviews and meta-analyses of health research



Participants of the systematic reviews and meta-analyses of health research course led by Dr Rose Galvin

The CPD-accredited (6 CPD points) one-day short course was designed to build methodological research capacity among clinicians, researchers and other healthcare professionals relating to performing and/or critically appraising systematic reviews and meta-analyses. The first proof-of-concept short course took place in the Clinical Education and Research Centre (CERC) at UHL and was attended by 30 delegates. Further roll-out of similar courses is planned for 2018.

Health Research Symposium

The theme of the 2017 Health Research Symposium was on **Building Partnerships to Advance Healthcare Research and Practice**. The symposium attracted 250 delegates and comprised a series of oral and poster presentations that showcased the breadth, depth and quality of health-related research and clinical partnerships at our clinical sites, in primary care and across the University campus.



Prof. Des Leddin (GEMS), Prof. Colette Cowan (UL Hospitals Group) and Prof. Austin Stack (Director HRI)



Research Posters displayed at Health and Research Symposium (Clinical, Education and Research Centre (CERC), University Hospital Limerick)

In addition, we had a number of national and international keynotes including Professor Harry Hemingway, Professor of Clinical Epidemiology at University College London, who discussed *emerging research opportunities in large scale electronic health records*. Dr Leonard O'Sullivan, Senior Lecturer at the School of Design, University of Limerick focused on *advancing health and human performance with health innovation*. Professor Richard McManus, Professor of Primary Care at the Nuffield Department of Primary Care Health Sciences, University of Oxford, highlighted recent research advances in the area of *patient self-management in hypertension*. Professor Martin O'Donnell, Professor of Translational Medicine at NUI Galway, completed our keynote addresses with an overview of *the evolving landscape of clinical research in Ireland*.



Prof. Austin Stack (Director HRI) and Prof. Richard McManus (Professor of Primary Care Research, University of Oxford)

Achievements

Doctoral Degrees Awarded

Student	Supervisor/ Co-Supervisor	PhD Title
Eva Barrett	Karen McCreesh, Kieran O'Sullivan	Examining the role of thoracic kyphosis in shoulder pain
Hilary Barrett	Michael Walsh	On the mechanical and morphological characterisation of calcification in diseased vascular tissue
Kris Beattie	Ian Kenny, Brian Carson	The effect of strength training on performance in endurance athletes
Catherine Browne	Amanda Clifford	Exploring self-management of bladder dysfunction among people with multiple sclerosis in the Republic of Ireland
Catriona Dowling	Patrick Kiely	Targeting protein kinase C in colorectal cancer
James Fitzgerald	Colum Dunne	The relationship between circadian integrity and delirium: A prospective study of an elderly population in an acute hospital setting
Marybeth Gallagher	Orla Muldoon	An exploration of occupational choice of disadvantaged youth from an occupational justice perspective
Marie Keays	Patrick Kiely	On the development of a microfluidic instrument for preclinical cell analysis
Louise Larkin	Norelee Kennedy, Stephen Gallagher	Promoting physical activity in people who have rheumatoid arthritis
Jonathon Linklater	Arlene McCurtin	Effectiveness of avoidance-reduction therapy for adults who stutter
Sean McAuliffe	Kieran O'Sullivan, Helen Purtill, Karen Mc Creesh	Beyond the tissue: The relationship between structure, function, and pain in Achilles tendinopathy
Liam McNamara	Patrick Kiely	Characterisation of the fundamental function(s) of bovine serum albumin in the culture of NSO cells
Sinead Morley	Michael Walsh	Towards the prediction of breast cancer cell behaviour in the lymphatics using in vitro and in silico methods
Catherine Naughton	Orla Muldoon	Child exposure to domestic violence, social factors and wellbeing in young people
Michelle Norris	Ross Anderson, Ian Kenny	Variability in recreational runners – A stride time analysis perspective
Brenda O'Connell	Stephen Gallagher, Deirdre O'Shea	Wellbeing begins with 'we' not 'me': Psychosocial benefits of gratitude interventions
Mary O'Keeffe	Kieran O'Sullivan, Norelee Kennedy	Treating more than just the back: The role of individualised multidimensional care for chronic low back pain

Student	Supervisor/ Co-Supervisor	PhD Title
Cliona O’Riordan	Amanda Clifford	An investigation into the role of targeted resistance exercise for the deep neck flexors in chronic neck pain rehabilitation
Hamid Raza	Stephen Kinsella	Financial development, crises, and recovery in small open economies
Richard Roche	Eimear Spain	Changed by the job – The impact that working in a prison has on prison officers
Joanne Shanahan	Amanda Clifford	An investigation into the feasibility and benefit of Irish set dancing for people with Parkinson’s disease
Kim Siekerman	Alan Donnelly	The effects of sensory stimulation and arousal on stepping in newborns
Kevin Sweeney	Eimear Spain	The changing nature of police interviewing in Ireland
Eoin White	Leonard O’Sullivan, Calvin Coffey, Michael Walsh	Towards the development of minimally invasive medical devices for separating the mesocolon from the retroperitoneum during colorectal surgery
Fiona Wixted	Leonard O’Sullivan	Psychosocial factors in sustained attention work and contribution to work related musculoskeletal disorders

Master Degrees Awarded

Student	Master	Supervisor(s)	PhD Title
Omar Abouazza	Master of Medicine (Medical Doctor)	Colum Dunne	The impact of healthcare-associated infections on patient care and the role of diagnostic molecular technology in infection prevention and control practice
Alan Macken	Master of Medicine (Medical Doctor)	Colum Dunne	In vitro comparative assessment of the mechanical properties of a PMMA cement and a GPC cement for vertebroplasty
Ciara O’Connor	Master of Medicine (Medical Doctor)	Colum Dunne	Evaluation of early metabolic and vascular risk in children of parents with early ischaemic heart disease
Mohammad Sahebally	Master of Medicine (Medical Doctor)	Colum Dunne	Mesenteric manifestations in Crohn’s disease

Clinical Research Support Unit

CRSU Core Team

Currently employed in the CRSU are a full-time Clinical Research Manager, three full-time nurses and one part-time nurse:

Dr Mary Clarke Moloney

Clinical Operations Manager (On Leave)

Maria Ryan

Clinical Research Manager

Elaine Conway

Clinical Nurse Manager 2

Siobhan Egan

Clinical Nurse Manager 2

Fiona Leahy

Clinical Nurse Manager 2

Rita Hinchion

Clinical Nurse Manager 1



Maria Ryan, Siobhan Egan, Fiona Leahy, Elaine Conway and Rita Hinchion



Clinical, Education and Research Centre (CERC), University Hospital Limerick

Origins and Development of CRSU

The HRI Clinical Research Support Unit was established in 2014 as an integral part of the HRI to support HRI members in the conduct of clinical research projects.

This included research nursing support for the planning, co-ordination and conduct of funded clinical research projects. The 2013 Higgins report influenced the UL Hospitals Group strategic plan, resulting in the priority to develop a clinical research unit to act as a focal point for all research activities for the group. The obvious benefits of these two institutions working together towards this common goal led to negotiations and establishment of the partnership unit: the UL/UL Hospitals Clinical Research Unit.

The HRI CRSU took up residence in its new home in the Clinical Education Research Centre (CERC) Building in January 2017. The team moved from modest office accommodation in the main hospital to this Health Service Executive and University of Limerick jointly funded building. This multi-storey structure provides dedicated space for clinical research and offers first-class facilities in the form of an auditorium, medical library, research staff offices and much more. There are clinical rooms devoted entirely to ensuring that patient visits and experiences during clinical studies are as comfortable as possible. Access to hot desks and boardrooms for HRI members has enabled many clinician–academic engagements.

The CERC Building is accommodating the research needs of UL researchers and the broad hospital community across all disciplines.

In 2015 the Memorandum of Understanding based on a detailed Framework Document for the governance of clinical research through the UL/UL Hospitals Clinical Research Unit (CRU) was signed.

In March 2017 an appendix to this agreement came into effect incorporating and formalising research engagement between Community Healthcare Organisations (CHO) Area 3 and the University of Limerick. This understanding facilitates official engagement and marrying of researchers from UL and CHO Area 3 with similar research interests.

May 2017 saw the approval of a very significant document specifying the Clinical Research Policy for the circumstances when UL would take on the role of Sponsor for HRI Principal Investigators (PIs) of Regulated Clinical Trials.

This work provides guidance to potential PIs on the infrastructure available within UL to take on the function of Sponsor under certain conditions. The policy describes the various stages and processes to be followed and adhered to before UL will accept the role of Sponsor.

The quality assurance and risk mitigation strategies, along with the provision of clear research governance, will ensure:

- The safeguarding of human participants in Clinical Trials
- Protection of researchers/investigators (by providing a clear framework to follow)
- Enhancement of scientific quality
- Confirmation of ethical consideration of design and treatment of subjects
- Minimising risk
- Monitoring of practices and performance
- Promotion of good practice

Critical Appraisal Skills Programme Ireland – CASPIR

CASPIR is the Irish branch of the internationally recognised Critical Appraisal Skills Programme. CASP developed workshops and tools for critically appraising a wide range of research including systematic reviews, randomised controlled trials, qualitative studies, cohort studies or case-control studies. These workshops and resources, e.g. checklists, help participants put knowledge into practice.

CASP is for anyone that wants to use research evidence in their professional practice, professional and personal decision-making, and in development of policy and guidelines.

The HRI, in collaboration with our partners in the Department of Public Health and UL Hospitals Group, were successful in securing Irish Research Council (IRC) funding to develop a Train the Trainer Programme in UL, which was held in September 2016. Following on from this the HRI co-ordinated, through the UL/UL Hospitals CRU, bimonthly CASPIR workshops throughout 2017. This very successful first year of the course facilitated 79 participants who attended at CRSU, along with a bespoke workshop for 110 undergraduate nursing students facilitated in UL in October 2017.

CASPIR

Critical Appraisal Skills Programme **Ireland**

Current Portfolio

Study	Principal Investigator/ Clinical Lead	Funding Source
Preconditioning Shields Against Vascular Events during Surgery (Preconditioning SAVES)	Stewart Walsh, Eamon Kavanagh & Paul Burke	Health Research Board
The biomechanical study of human carotid, femoral, popliteal and abdominal aortic tissue: On the use of blood-based biomarkers to determine location-specific arterial plaque phenotype in cardiovascular disease patients: A preliminary study	Eamon Kavanagh, Eibhlis O'Connor & Michael Walsh	Irish Heart Foundation
A Randomized, Multicountry, Multicenter, Double-Blind, Parallel, Placebo-Controlled Study of the Effects of Atrasentan on Renal Outcomes in Subjects with Type 2 Diabetes and Nephropathy. SONAR: Study of Diabetic Nephropathy with Atrasentan	Austin Stack	AbbVie
Standard issue transfusion versus fresher red blood cell use in intensive care – A randomised controlled trial	Alistair Nichol & Catherine Motherway	HRB Critical Care Network
Colchicine for prevention of vascular inflammation in non-cardioembolic stroke – A randomised clinical trial of low-dose colchicine for secondary prevention after stroke	Peter Kelly, John McManus & Margaret O'Connor	HRB Stroke Trial Network
The genomic basis of multiple sclerosis (MS) in Ireland	Peter Boers	Genomics Medicine Ireland
The genomic basis of inflammatory bowel disease in Ireland	Maeve Skelly	Genomics Medicine Ireland
Highlow Study: Low-molecular-weight heparin to prevent recurrent VTE in pregnancy: A randomized controlled trial of two doses	Fionnuala Ni Ainle & Denis O'Keeffe	HRB Mother & Baby Clinical Trials Ireland
A multi-centre randomised controlled trial of an open lung strategy including permissive hypercapnia, alveolar recruitment and low airway pressure in patients with acute respiratory distress syndrome	Alistair Nichol & Catherine Motherway	HRB Critical Care Network
StathGuard Empirical Research Study	Leonard O'Sullivan & Austin Stack	Enterprise Ireland
Critical Leg Ischemia Stem Cell Trial	Tim O'Brien, Eamon Kavanagh & Tony Moloney	Health Research Board, Science Foundation Ireland
Ostoform Practical Application Study	Calvin Coffey, Rhona Hunt & Kevin Kelleher	Enterprise Ireland

Research Highlights

Year Overview 2017



48% of HRI collaborations are in joint publications



69 Scientific publications in 2017



38% of 2017 HRI publications were in **top 10% journals**



49.2% International Collaboration



18% increase in International Collaborations from 2016



International Collaborations Field-Weighted Citation Impact **1.74**

Collaborations by Country



HRI academics have collaborations with
435 organisations in **60** countries

Grants



46 AWARDS

Academic year 2016/2017



3.7 MILLION

Value of awards 2016/2017



12.2% INCREASE

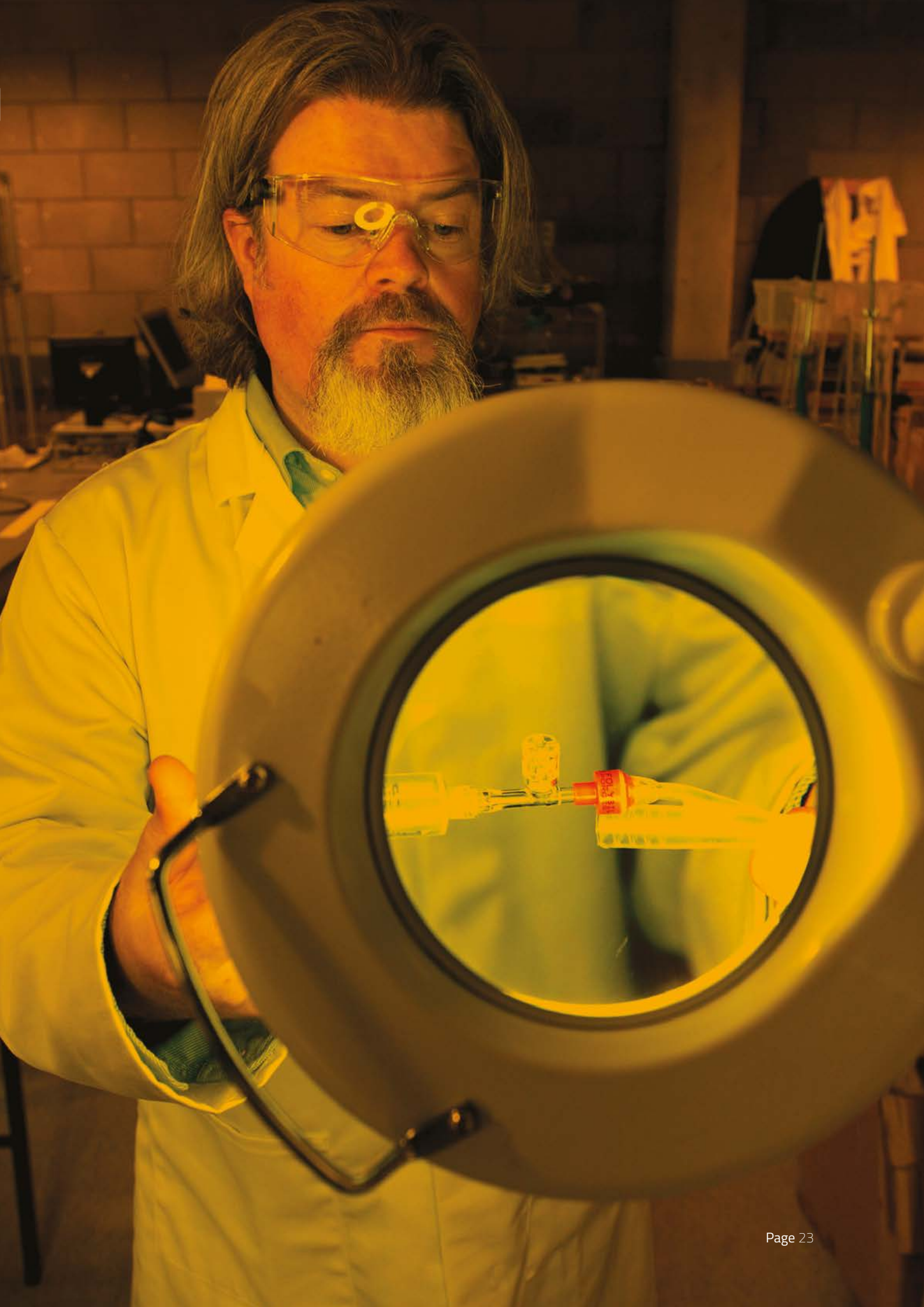
Awards value growth since 2015/2016



- 15** Enterprise Ireland
- 3** Health Research Board
- 2** Science Foundation Ireland
- 4** European Union
- 7** Irish Research Council
- 6** Other
- 1** DAFM
- 4** Industry
- 3** Environmental Protection Agency
- 1** Health Service Executive

Research Awards successful in 2017 but not counted in the academic year 2016/17

Funding Body	PI	Programme	Amount
Health Research Board	Cathal Walsh	APA	€239,998
Health Research Board	Cathal Walsh	APA	€119,839
Health Research Board	Rose Galvin	ILP	€369,088
Health Research Board	Rose Galvin	RCQPS	€277,161
Health Research Board	Anne MacFarlane	PPI Ignite	€350,000
Sport Ireland	Catherine Woods	CSPPA	€334,000
Health Research Board	Catherine Woods	HDHL-PEN	€500,000
ICUF	Roisin Cahalan	Dobbin	€3,500
HSE	Catherine Woods	HAPAI	€449,000
SFI Opportunistic Fund	BioSciBer group	SFI Infrastructure	€689,418
Total			€3,332,004



List of Grant Award AY 2016/2017

Information provided by Research Office, based on Research Cost Centres open between 1 October 2016 and 30 September 2017.

Funding Body	Budget (€)	Description	Project Leader
Science Foundation Ireland	612,735	SFI – Targeting the temporal gradient of wall shear stress as the key mediator of vascular tissue response to implanted medical devices	Michael Walsh
Health Research Board	329,946	HRB – Ethnic minority health in Ireland	Anne MacFarlane
Department of Agriculture Food and Fisheries	306,291	DAFM – Incorporation of novel brewers' spent grain (BSG)-derived protein hydrolysates and blended ingredients in functional foods for older adults and assessment of health benefits in vivo	Dick Fitzgerald
Environment Protection Agency	229,675	EPA – Developing the potential of community action groups towards transition to a low carbon society	Bernadette O'Regan
Environment Protection Agency	226,611	EPA – Sustainable voluntary communities: Supports for sustainable environmental, social and economic development	Bernadette O'Regan
Enterprise Ireland	223,675	EI – Stath-Guard Stage 1	Leonard O'Sullivan, Austin Stack
Enterprise Ireland	221,000	EI – Nutrient intervention in osteoporosis	Phil Jakeman
European Union	219,513	EU-COMPEL – Costs and mechanisms of personalised exercise and education for chronic low back pain	Kieran O'Sullivan/ Mary O'Keefe
Industry	168,828	Industry – Investigating the effects of fasted vs fed state high-intensity training on skeletal muscle metabolism	Brian Carson
Enterprise Ireland	168,013	EI – In-vitro and ex vivo anti-inflammatory activities of salmon polar lipid	Ioannis Zabetakis
Other	153,618	Other – National Marine Biodiscovery Laboratory in Ireland (NMBLI)	Dick Fitzgerald

Funding Body	Budget (€)	Description	Project Leader
Irish Research Council	96,000	IRC – Towards the improvement of endovascular treatment of endovascular disease – Rachel Cahalane	Michael Walsh
Irish Research Council	95,800	IRC – Mary Flynn scholarship	Leonard O’Sullivan
Other	85,029	Other – Senior Research Fellow in Biostatistics	Austin Stack
Industry	77,590	Industry – ASPIRE	Clodagh O’Gorman
Health Research Board	64,087	HRB – Transfuse	Mary Clarke Moloney
Industry	53,585	Industry – Nutrient intervention in osteoporosis	Phil Jakeman
Health Research Board	50,597	HRB – PHARLAP RCT of an open lung strategy	Austin Stack
European Union	43,381	EU – Erasmus – Keeping youngsters involved	Catherine Woods
European Union	40,737	EC – Fix the fixing: Proactive quelling of sports events manipulation	Tadhg MacIntyre
Industry	37,087	Industry – In-vitro and ex-vivo anti-inflammatory activities of salmon polar lipid	Ioannis Zabetakis
European Union	37,050	EU H2020 – Pathway: Technology enabled behavioural change as a pathway towards a better self-management of CVD	Catherine Woods
Irish Research Council	24,000	IRC – Decision making in dementia care – Hope Davidson	Eimear Spain
Irish Research Council	23,980	IRC – From social curse to social cure: Destigmatising leprosy in rural Nepal	Orla Muldoon
Irish Research Council	21,014	IRC – Falls prevention in MS	Susan Coote
Enterprise Ireland	18,720	EI – Commercial evaluation of a novel medical device to prevent infections and improve quality of life with indwelling central venous catheters	Leonard O’Sullivan

Funding Body	Budget (€)	Description	Project Leader
Enterprise Ireland	11,980	EI – Going outdoors: Gathering research evidence for environment, exercise, exploration & extreme	Tadhg MacIntyre
Enterprise Ireland	11,700	EI – Development of a novel sheep yogurt with enhanced anti-inflammatory properties	Ioannis Zabetakis
Enterprise Ireland	11,700	EI – The anti-coagulant properties of proprietary seaweed blends and extracts	Ioannis Zabetakis
Enterprise Ireland	11,253	EI – Assessment of the In vitro anti-inflammatory and sensory properties of goat milk and cheeses	Ioannis Zabetakis
Health Service Executive	10,000	HSE – Suicide prevention through enhancing teacher capacity to support student mental health	Jennifer McMahon
Science Foundation Ireland	10,000	SFI – SOFSEM	Tiziana Margaria
Irish Research Council	9,756	IRC – Inclusive policing for gender variant persons: Informing practice, policy, and training developments	Amanda Haynes
Other	9,574	Other – Identifying research questions to identify local interventions in the Mid-West region to support breastfeeding initiation and duration	Fiona Murphy
Enterprise Ireland	6,620	EI – Coach for Parkinson's	Ita Richardson
Enterprise Ireland	6,500	EI Voucher – Requirements development for software product and service solution Healthsense Ltd	Ita Richardson
Enterprise Ireland	6,500	EI Voucher – Design of workflows in acute care for software application development IncareView Ltd	Ita Richardson

Funding Body	Budget (€)	Description	Project Leader
Enterprise Ireland	6,500	EI Voucher – User interface and requirements development for software product and service solution	Ita Richardson
Enterprise Ireland	6,500	EI Voucher – Redesign of Pinpoint user interface	Ita Richardson
Enterprise Ireland	6,500	EI – Usability and customer experience design for mental fitness for youth	Ita Richardson
Other	4,752	Other – Welcome – The response of the gut microbiota to a range of anti-diabetic medications and its impact on glucose control	Eibhlis O'Connor
Environment Protection Agency	3,000	EPA-MindSCAPE Summit: Exploring nature-based solutions for well-being	Tadhg MacIntyre
Irish Research Council	2,730	IRC – Systematic review and meta analysis study of effectiveness of interventions to promote physical activity in younger people after stroke	Sara Hayes
Other	1,500	Other – Inaugural UL Gems Paediatrics Study Day	Clodagh O'Gorman
Enterprise Ireland	1,400	EI – H2020 Travel Support Spain Feb 17	Leonard O'Sullivan
Other	545	Other-Munster rugby performance testing	Ian Kenny

Research Spotlight



Health Service Executive funding boosts activity in adults over 50 by helping them “Move 4 Life”

‘Move 4 Life’: An evaluation of a peer mentoring intervention designed to cascade and consequently up-scale existing programmes to help inactive 50+ adults become more active.

The Move 4 Life intervention will evaluate the effectiveness of a physical activity intervention programme employing peer-mentor support to increase the daily amount of physical activity undertaken by Irish people over 50 years old. Staff shortages are known to complicate the delivery of health promotion efforts, thus peer-delivered interventions could have considerable, positive public health implications in terms of expanding the reach of such efforts. The intervention study is a feasibility study including a parallel, pilot cluster randomised controlled trial of M4L compared to standard exercise intervention without peer support. The intervention will test whether the M4L intervention increases daily physical activity and reduces sedentary behaviour, and also whether it is as effective as, or more effective than, standard exercise intervention. For this trial, 8 community sport and physical activity HUBS across Clare (n=4) and Limerick (n=4) will be recruited.



Attendees at the kick off meeting for “Move 4 Life” programme, University of Limerick

The M4L programme is led by Professor Catherine Woods from the PESS Department and together with Professor Liam Glynn (GEMS), Dr Amanda Clifford and Professor Susan Coote (Clinical Therapies), Professor Stephen Gallagher (Psychology) and Professor Alan Donnelly (PESS), M4L brings a strong multidisciplinary team from across the Health Research Institute.

In addition to the UL contribution, Professor Andrew Murphy, Professor John Newell and Dr. Paddy Gillespie from NUIG, along with local stakeholders from the Limerick Sports Partnership (Mr. Phelim Macken), the Clare Sports Partnership (Mr. John Sweeney), Age and Opportunity (Ms. Mary Harkin), the HSE Health and Wellbeing Division (Ms. Geraldine Quinn) and Healthy Limerick (Ms. Mo Foley Walsh) make up the very strong research and practice team to carry out the work of this project. The programme begins in January 2018, has a budget of €450,000 and will run for a period of 22 months.

HRB Applied Partnership Award of €120,000 to explore funding equity in public hospitals



Dr Hussain Mahdi (Senior Lecturer, UL), Prof. Austin Stack (Director HRI), Prof. Cathal Walsh (Chair in Statistics, UL), Brian McKeon (Director of Informatics, Planning & Performance, UL Hospital Group), Prof. Richard McManus (Professor of Primary Care Research, University of Oxford)

This followed on from a HRI workshop on “Defining Research Priorities” held in March 2016, which brought stakeholders from UL, CHO 3, and UL Hospitals Group. One of the research priorities identified was the need to look at the model of Activity Based Funding and its effect on how the UL Hospitals Group are funded. As per the requirements of the Applied Partnership programme, the research team had to comprise a research team and a knowledge user team. In this instance, the academic lead was Professor Cathal Walsh, HRB Research Leader, with the knowledge user team led by Brian McKeon – Group Director of Informatics at Planning and Performance at UL Hospitals Group, and Dr Anne Dee from the Department of Public Health.

Ireland, similarly to other countries, is currently implementing an activity based funding (ABF) model for public patient care in hospitals. While the ABF approach has a number of benefits, the issue of equity has rarely been addressed at a research or policy level. As health is not evenly distributed across socio-economic groups in Ireland, it is possible that under the ABF model, hospital group (HG) areas with more disadvantaged population profiles may not receive fair or adequate

funding. This project aims to examine whether the socio-economic profile of HG areas in Ireland varies, and to determine whether socio-economic factors are associated with length of stay (LOS) and other health care measures that are proxies for cost using Hospital In-Patient Enquiry (HIPE) data. Should evidence suggest that unfair funding allocation is possible using ABF, this research team will propose a national solution to enhance the current methods used for allocation of funding.

StathGuard project secures €500,000 in funding to develop a novel medical device to improve patient quality of life

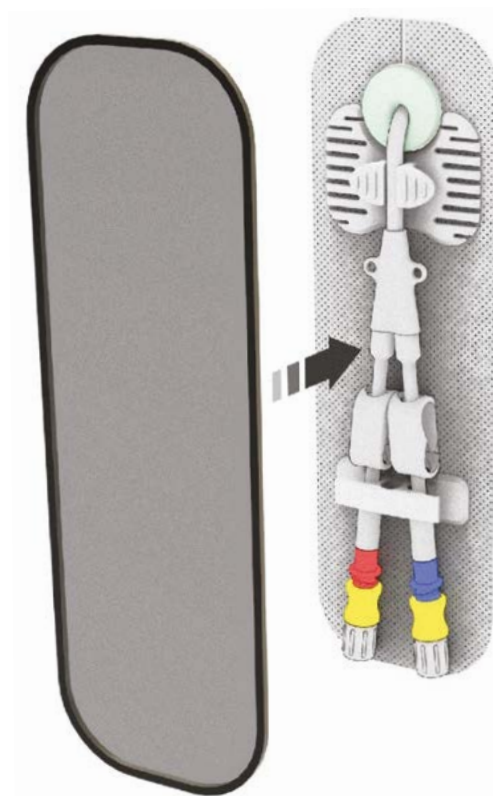
Dr Leonard O’Sullivan (School of Design) and Professor Austin Stack (GEMS and UHL) secured a grant of €500,000 (Stage 1 – €223,675) from Enterprise Ireland under the Commercialisation Fund, to develop a catheter management device that aims to prevent catheter-related infections and improve patients’ quality of life.

Over 2 million patients worldwide receive haemodialysis treatment for end stage kidney disease. Infection is the most common cause of morbidity, and central venous catheters (CVCs) pose the greatest risk of infection of all vascular access types in this patient group. A recent study from the HRI identified that the prevalence of catheter-related infection was as high as 8% in some patient groups. Dialysis patients report a considerable impact on their quality of life due to CVCs, with the lines affecting their willingness to perform light physical activity, occupational tasks, and basic activities of daily living such as showering.

StathGuard addresses this clinical and patient quality of life need in the design of a novel protective dressing and suture-less securement concept. The device anchors and protects the catheter entry site while also preventing CVC line trauma and infection.

The idea for the project arose through a collaboration between the School of Design and clinical stakeholders in the University Hospital Limerick. A multidisciplinary team involving nursing staff and clinicians across the hospital, including the Departments of Nephrology, Haematology, Oncology and Radiology, validated the need for a device to address this clinical and patient need.

Under the grant, the concept can now enter its second stage of development, which includes both patient and nursing review and involvement in concept development. The clinical studies on the project have been enabled and are led by the Clinical Research Support Unit in the University Hospital Limerick. The project is a blueprint for medical device innovation focused on public patient involvement (PPI), addressing quality of life as well as pertinent clinical outcomes.



StathGuard securement device prototype.

HRB funding award of €348,909 to 'Ignite' partnerships for public and patient involvement in research

Partnerships were developed with community and health sector stakeholders for a successful **PPI Ignite Award University of Limerick – €348,909.00**. Funded by the HRB and IRC, this programme was designed to support and promote capacity building for high-quality PPI in health research. This provided a timely opportunity to build and expand on the activities of the HRI PPI theme. The UL team, led by Professor Anne MacFarlane from the Graduate Entry Medical School, worked closely with community stakeholders from the Limerick City Community Development Programme and Care Alliance Ireland as well as health sector stakeholders from University Hospital Limerick Patient Advocacy Liaison Services and the HSE Community Care office. In the spirit of meaningful involvement, there was discussion and debate about what the UL application should entail.

As a result of this successful, co-designed bid, PPI has developed into the fourth main theme of the HRI and there will be activities involving UL health researchers, community and health sector stakeholders for (i) training in PPI, (ii) networking to collaboratively set research priorities and (iii) progressing policies and procedures to further strengthen the

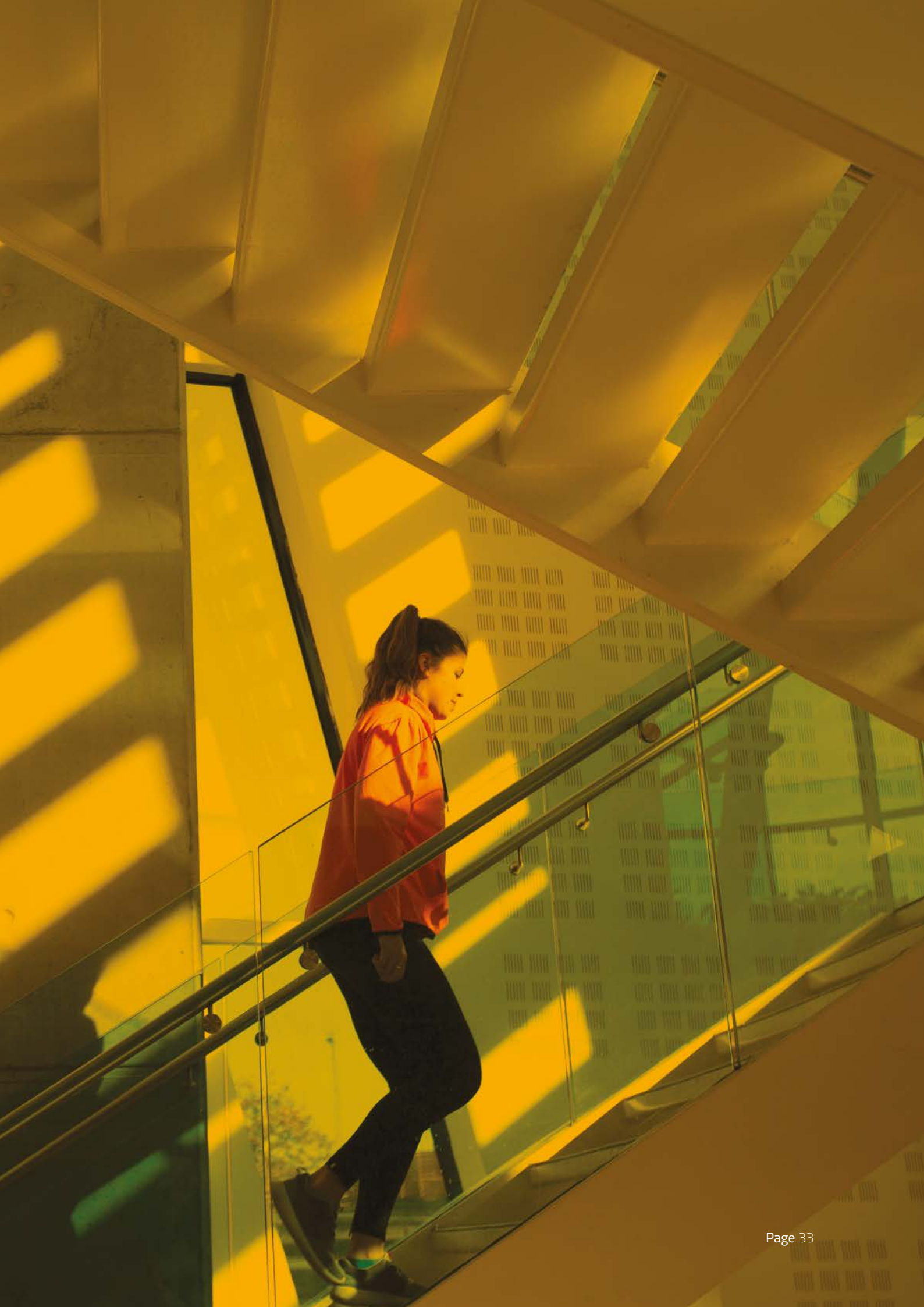
culture for PPI in UL. The existence of the HRI was instrumental to the successful outcome of this funding application. The three thematic areas provided clarity about how PPI activities could be integrated across the health research community at UL and the leads of the other three themes will be important collaborators for PPI Ignite. The HRI Executive provided scope for integrating PPI activities into management structures, a key requirement of the HRB for this funding programme. Finally, once again, the HRI Core Team provided key administrative and project management support for the grant application and submission.

HRI sows seeds to support clinical and academic partnerships

The first Health Research Institute seed funding call was announced in January 2015 and closed in April 2015, with applications reviewed and successful applicants informed by August 2015. The aim of this HRI seed funding round was to enhance multidisciplinary collaboration between HRI members, and to “pump prime” a range of developing research projects. To this end, a total of €205,000 was disbursed in grants of up to €35,000. Six seed funding projects were funded, all starting Autumn 2015 and most projects concluding during 2017. The funding was awarded to teams of Institute members, with a total of 18 members receiving funding as PIs or co-apps on the projects. To date, although project work has just been completed, the funding has resulted in 7 national and international grant applications, 16 national and international conference presentations and 3 publications in peer-reviewed journals. A further 18 international journal papers reporting on the work are in preparation or are undergoing editorial review.



Aoife Synnott, Dr Katie Robinson (Senior Lecturer in Occupational Therapy, UL), Prof. Austin Stack (Director HRI)



HRI Affiliated Papers in 2017

Note: Data source – Scopus. Date last updated – 08-Dec-17. Date exported – 08-Jan-18.

HRI members highlighted in bold.

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