



The Health and Biomedical (HEAL) Research Centre



Newsletter, Volume 1, December 2024

HEAL's 2024 Summary

HEAL has had a very busy 2024 with growth across membership, networking and engagement. HEAL now has members across all campuses of the ATU with over 80 members.



TU RISE – THRIVE PRTP

The **THRIVE PRTP** recruited 13 PhD students all focusing on preventative health strategies with supervisory panels including HEAL members in each project.



Big Congrats to Dr Laura Keaver on achieving the Prof Éilis McCaughan Cancer Care Research Memorial Award 2024 in November.



TechSocialcare



Promoting Technical Standards for Assistive Technology in European Social care services

Lead partner: Czech Technical University in Prague, Czech Republic

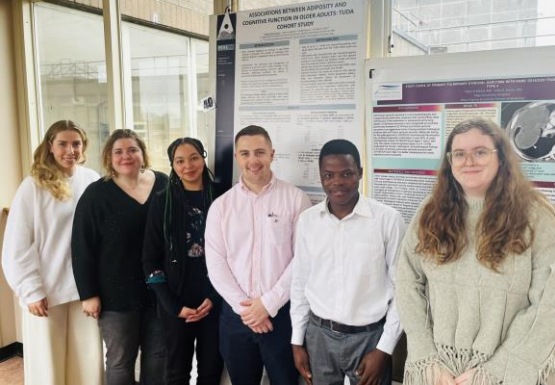


Dr Martin O'Neill attended several networking events throughout 2024 including The Biopharma & Life Sciences Conference, Cork in January. Healthy Brain Symposium, Sligo in November.

Well done to HEAL's **Dr Perry Share** and **Dr John Pender** on their recent success as advisory partners in the Interreg third call.



THRIVE PRTP PI's and Data2Sustain Investigators: Dr Ken Van Someren, Dr Richéal Burns, Dr Michael McCann and Dr Martin O'Neill attended the Data2Sustain ATU network event in October 2024.



HEAL Researchers and PhD Students presented a range of research presentations and posters at the 25th Annual Multidisciplinary Research and Education Foundation (REF) Conference at Sligo University Hospital, November 2024.



Well done to HEAL's **Margaret McLoone** and **Yvonne Kennedy** on ATU mural promoting breast feeding



Prof Suresh Pillai, guest speaker at the Winter School of CEC's, Portugal, Nov 2024



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Dr Laura Keaver presenting at ISBNPA Conference, Nebraska June 2024.

Ms Patricia Canton Lobera, Ms Machailla McCabe, Ms Naoise Rasmussen and Mr Kristian Mallon, presenting research at The Professional Society for Health Economics and Outcomes Research (ISPOR), Nov 2024.



Mr Kristian Mallon, PhD candidate, presenting at the European Health Economics Association (EuHEA) June 2024.

Dr Richéal Burns presenting on the importance of patient advocacy for the CCI Patient Day in Sligo, Oct 2024



Dr Martin O'Neill with HSE Mental Health Crisis Resolution Service lead, **Dr Elizabeth Gethins** funded by Data2Sustain to enhance data management and visualization.



ATU's WiSTEM Society, spearheaded by **Dr. Anushree Dwivedi**, has been actively supporting female students since September 2023, aiming to bridge the gap and empower women pursuing STEM disciplines. The Johnson & Johnson scholarship opportunity will provide a significant boost to the female students in STEM courses and will support them to build a strong career in future.

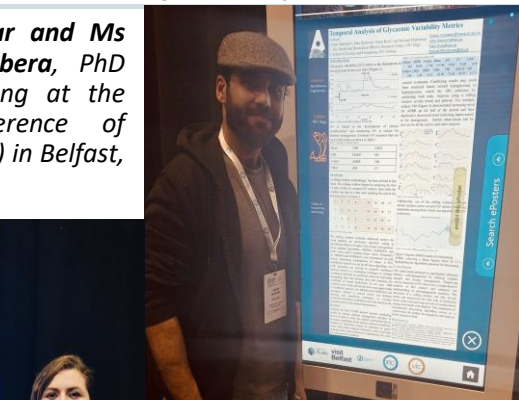
HEAL Researchers and PhD Students attend the EU Green Researcher Week in Sligo, June 2024



Mr Faizan Munawar and Ms Patricia Canton Lobera, PhD candidates, presenting at the International Conference of Integrated Care (ICIC) in Belfast, May 2024.



Big Congrats to HEAL's **Dr Riona Walsh** on her PhD award. Riona delivered a fantastic HEAL seminar in October.



Data2Sustain Project Team, led by **Dr Martin O'Neill**, presenting on the digital platform developed in collaboration with HSE Mental Health Crisis Resolution Project, Dec 2024.



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2024 Publications

Yetunde A. Ajayeoba, Saheed A. Adewinbi, Olusola Akinrinola, Akinlolu Akande, **Suresh C Pillai**, Ayodeji O. Awodugba, Optical and photoluminescence modulation in monolayer molybdenum sulfide thin films via electrochemical deposition: Exploring the influence of deposition voltage and time. *Results in Physics*, Volume 61, 2024. <https://doi.org/10.1016/j.rinp.2024.107772>

Ashil Augustin, Priyanka Ganguly, Sulakshana Shenoy, Chitiphon Chuaicham, **Suresh C. Pillai**, Keiko Sasaki, Adam F. Lee, Karthikeyan Sekar. "Impact of Hole Scavengers on Efficient Photocatalytic Hydrogen Production. *Advances Sustainable Systems*. 2024 <https://doi.org/10.1002/adsu.202400321>

Ashbar L.D.W.....**Keaver L.**, Tucker R. (2024). Fostering University Resilience in the Face of Crisis: Insights from Global Student Experiences During the COVID-19 Pandemic. *Medical Research Archives* 12(1). 10.18103/mra.v12

Awad, Mohamed; **Mulrennan, Konrad; Donovan, John**; Macpherson, Russell and Tormey, David, A Multi-Objective Simulation Optimisation Scheduling Model for a Batch Pharmaceutical Manufacturing Facility with Uncertainties in Processing Time and Electrical Energy Consumption. Available at SSRN: <https://ssrn.com/abstract=4991174> or <http://dx.doi.org/10.2139/ssrn.4991174>

Fiona Doherty, Paul Powell, Ciara McBride, **Kenneth Monaghan**. Physical Telerehabilitation interventions for Gait and balance in Multiple sclerosis: A Scoping review. *Journal of the Neurological Sciences*, Volume 456, 2024, <https://doi.org/10.1016/j.jns.2023.122827>.

Fiona Doherty, Peter Lynch, Paul Powell, **Kenneth Monaghan**. Feasibility and effectiveness of telerehabilitation on mobility and balance function in multiple sclerosis: A systematic review and meta-analysis. *Journal of the Neurological Sciences*, Volume 466, 2024. <https://doi.org/10.1016/j.jns.2024.123214>

Grant JJ, **Pillai SC**, Perova TS, Brennan B, Hinder SJ, McAfee M, Hehir S, Breen A. Enhancement of 5-Fluorouracil Drug Delivery in a Graphene Oxide Containing Electrospun Chitosan/Polyvinylpyrrolidone Construct. *Materials*. 2024; 17(21):5300. <https://doi.org/10.3390/ma17215300>

Kavanagh R., Douglas P., **Keaver L.** (2024). Qualitative Analysis Following the Delivery of a Farmer Lifestyle Program. *Journal of Agromedicine*, 10.1080/1059924X.2024.2343400

Keaver L & McLoughlin C (2024). A Latent Class Analysis of Nutrition Impact Symptoms in Cancer Survivors. *Dietetics* 3(4):423-434

Li Z, **Keaver L.**...Zhang FF (2024). Review of Nutrition Guidelines and Evidence on Diet and Survival Outcomes for Cancer Survivors: Call for Integrating Nutrition into Oncology Care. *Journal of Nutrition*, 154(8):2346-2362

O'Callaghan N., Douglas P, **Keaver L.** (2024). Meaning of nutrition for cancer survivors: a photovoice study. *BMJ Nutrition, Prevention & Health*;e000822. doi: 10.1136/bmjnph-2023-000822

O'Hehir T & **Keaver L** (2024). Sustainability: Irish Dietitians Perceptions and Experiences. *Dietetics* 3(3):357-370

Silvia Maggi, Rebecca M Hock, **Martin O'Neill**, Mark Buckley, Paula M Moran, Tobias Bast, Musa Sami, Mark D Humphries (2024) Tracking subjects' strategies in behavioural choice experiments at trial resolution. *eLife*. 13:e86491. <https://doi.org/10.7554/eLife.86491>

McBride T, McBride C, McHugh L, **Burns RM**; Promoting early-intervention for suicide prevention: The role of mental health literacy and attitudes towards suicide: A quantitative study in Ireland. *Health Policy*, 2024 Vol 149, <https://doi.org/10.1016/j.healthpol.2024.105150>.

Rimmer, B., Brown, M.C., Sotire, T, **Burns, RM.** et al. (2024) Characteristics and Components of Self-Management Interventions for Improving Quality of Life in Cancer Survivors: A Systematic Review. *Cancers*, Vol 16, 14. <https://doi.org/10.3390/cancers16010014>

Ben Rimmer, Michelle Balla, Lizzie Dutton, Sophie Williams, Joanne Lewis, Pamela Gallagher, Tracy Finch, **Richéal Burns**, Vera Araujo-Soares, Fiona Menger, Linda Sharp, Ways Ahead study team. "It changes everything" Understanding how people experience the impact of living with a lower-grade glioma." *Neuro-Oncology Practice*, 2024;, npae006, <https://doi.org/10.1093/nop/npae006>.

Rimmer B, Balla M, Dutton L, Lewis J, **Burns, RM** et al. 'A Constant Black Cloud': The Emotional Impact of Informal Caregiving for Someone With a Lower-Grade Glioma. *Qualitative Health Research*. 2024;34(3):227-238. doi:10.1177/10497323231204740

Rimmer B, Finch T, Balla M, Dutton L, Williams S, Lewis J, Gallagher P, **Burns RM**, Araújo-Soares V, Menger F, Sharp L; Ways Ahead study team. Understanding supported self-management for people living with a lower-grade glioma: Implementation considerations through the lens of normalisation process theory. *Health Expect*. 2024 Jun;27(3):e14073. doi: 10.1111/hex.14073. PMID: 38733245; PMCID: PMC11087884.

Ben Rimmer, Michelle Balla, Lizzie Dutton, **Richéal Burns**, Vera Araújo-Soares, Tracy Finch, Joanne Lewis, Pamela Gallagher, Sophie Williams, Fiona Menger, Linda Sharp, "It's a delicate dance": How informal caregivers experience the role and responsibilities of supporting someone living with a lower-grade glioma, *Neuro-Oncology Practice*, 2024;, npae096, <https://doi.org/10.1093/nop/npae096>

Rimmer, B., Balla, M., Dutton, L, Lewis, J., Brown, M., **Burns, RM.**, et al. Identifying and understanding how people living with a lower-grade glioma engage in self-management. *J Cancer Surviv* 18, 1837–1850 (2024). <https://doi.org/10.1007/s11764-023-01425-x>



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2024 Presentations

PRESENTATIONS (1/2)

Richéal Burns, Matthew Skerritt, Ben Rimmer, Linda Sharp. 2024. Implementing self-management strategies for people living with low grade glioma - an economic assessment of the Way's Ahead Study. International Conference on Integrated Care, Belfast

Audrey Fayne, PhD candidate, Martin O'Neill. 2024. Comparison of machine learning and classical statistics in predicting health outcomes in a lifestyle modification programme for obesity. Fayne A, Finucane F, O'Neill M, Craddock K. MOCHAS Symposium, Sligo.

Amit Goswami, Suresh C. Pillai and Gerard McGranaghan. 2024. Grooved hybrid copper surfaces for condensation heat transfer. 2024 J. Phys.: Conf. Ser. 2766 012137 DOI 10.1088/1742-6596/2766/1/012137

Mr Kristian Mallon, PhD Candidate, Glen Doherty, Richéal Burns. 2024. Mental health and chronic disease management: the importance of understanding mental health impact for people living with Inflammatory Bowel Disease. 25th Multidisciplinary Health Research Conference & 3rd Early-Stage Health Researcher Forum, Sligo University Hospital, Sligo, Ireland.

Mr Kristian Mallon, PhD Candidate Glen Doherty, Richéal Burns. 2024. Examining the Predictors of Patient-Level Variation in Self-Reported Health-Related Quality of Life (HRQOL) Among Inflammatory Bowel Disease in Ireland. ISPOR, Barcelona, Spain.

Mr Kristian Mallon, PhD Candidate Glen Doherty, Richéal Burns. 2024. Determinants of Health-related quality of life among Irish IBD patients. European Health Economics Association, Vienna, Austria.

Mr Kristian Mallon, PhD Candidate Glen Doherty, Richéal Burns. 2024. Health-related quality of life among Irish Inflammatory Bowel Disease patients: a cross-sectional survey using the EQ-5D-5L. European Crohn's and Colitis Organisation (ECCO), Stockholm, Sweden.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024. Insights from Within: Understanding Mental Health through the Student Lens. ATU Galway Mental Health Week Event.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024. Fostering a Culture of Approachability: Amplifying Soft Approaches to Student Mental Health. Research Festival, Atlantic Technological University Letterkenny, Ireland.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024 Embracing Diversity in Student Mental Health: The Ineffectiveness of a 'One size Fits All' Approach in University Settings. Research Festival, Atlantic Technological University Letterkenny, Ireland.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024. Will there ever be 'adequate' mental health supports anywhere? 4th Annual Irish Student Health Association Conference, Sligo, Ireland.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024. Navigating Student Mental Health: Staff Responses, Support Seeking and Training/Resource Needs – An Update. ATU Sligo Mental Health Taskforce Meeting.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024. Insights from Within: Understanding Mental Health through the Student Lens" [Oral Presentation]. Student Mental Health Research Network.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024. Bridging Minds – A Situational Analysis of Mental Health Perceptions and Suggested Supports for Students across a Multi-Campus Irish University. 12th International Union for Health Promotion & Education European Conference, Medical University of Lodz, Poland.

Machailla McCabe, PhD Candidate, Burns, R., Cummins, G., Linnane, R., & McLoone, M. 2024. Diverse Student Mental Health Requires Diverse Solutions. 25th International Federation for Home Economics Congress, Galway, Ireland.



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2024 Publications and Presentations

PRESENTATIONS (2/2)

Machailla McCabe, PhD Candidate, Cummins, G., Linnane, R., McLoone, M & Burns, R. 2024. Mental Health Inequalities across Irish University Students – A cross-sectional exploratory analysis. ISPOR Europe, Barcelona, Spain.

Machailla McCabe, PhD Candidate., Cummins, G., Linnane, R., McLoone, M., & Burns, R. 2024. Trends in Mental Health: The Drivers of Mental Health for Third Level Students. 25th Multidisciplinary Health Research Conference, Sligo, Ireland.

Faizan Munawar, PhD Candidate. Konrad Mulrennan. 2024. Temporal Analysis of Glycaemic Variability Metrics. International Conference on Integrated Care, Belfast

Patricia Canton Lobera, PhD Candidate, Konrad Mulrennan, Richéal Burms. 2024. Examining the prediction properties of Visual Analogue Scale for utility measurement in End-Stage Liver Disease pre- and post-transplantation. ISPOR, Barcelona, Spain.

Patricia Canton Lobera, PhD Candidate, Konrad Mulrennan, Richéal Burms. 2024. UNDERSTANDING DEPRESSION & ANXIETY LEVELS IN END-STAGE LIVER DISEASE. 25th Multidisciplinary Health Research Conference & 3rd Early-Stage Health Researcher Forum, Sligo University Hospital, Sligo, Ireland.

Patricia Canton Lobera, PhD Candidate. 2024. Modelling innovation for health assessment of medical interventions in heterogenous populations - an introduction of the BIP candidate and her research", Blended Intensive Program on Mathematical and Computational modelling for sustainability, Oradea, Romania.

Patricia Canton Lobera, PhD Candidate, Konrad Mulrennan, Richéal Burms. 2024. Understanding variation in Health-Related quality of life domains for patients with End-Stage liver disease: findings from the EU COPE trial. International Conference on Integrated Care, Belfast

Patricia Canton Lobera, PhD Candidate, Konrad Mulrennan, Richéal Burms. 2024. Assessing the relationship and predictive nature of visual analogue scales for utility scores in European patients with end-stage liver disease. CASI Annual Conference, Athlone.

Patricia Canton Lobera, PhD Candidate, Konrad Mulrennan, Richéal Burms. 2024. Understanding health quality of life domains through statistical analysis: heterogeneity in patients with end-stage liver disease. 2nd MOCHAS Symposium, ATU.

Naoise Rasmussen, PhD Candidate, Richéal Burns, Karen Coughlan, Eamon Laird 2024. Associations between adiposity and cognitive function in older adults: Trinity Ulster Department of Agriculture ageing cohort study. 25th Multidisciplinary Health Research Conference & 3rd Early-Stage Health Researcher Forum, Sligo University Hospital, Sligo, Ireland.

Naoise Rasmussen, PhD Candidate,, Karen Coughlan, Richéal Burns. 2024. Dementia awareness and risk factors assessment: a cross-sectional study of the Irish population. ISPOR, Barcelona, Spain.

Dr Riona Walsh, M. Gormally, C. Williams, C. Carlin. 2024. Risk perceptions of outdoor professionals and recreationists relating to Lyme borreliosis in Ireland. Presented at Environ 2024, Waterford.

Dr Riona Walsh, M Gormally, C. Williams, C. Carlin. 2024. Predicting Ixodes ricinus abundance in the west of Ireland . Presented at Ento 2024, Liverpool (Conference of the British Entomological Society).

Dr Riona Walsh, M. Gormally, C. Williams, C. Carlin. 2024. Tick bite risk and mammal and bird species activity; disease ecology in a host species poor region of Europe. Presented at the European Congress for Conservation Biology, Bologna.

Tianran Zhang, PhD candidate, Martin O'Neill. 2024. 'How Does Your Brain Work in a REAL / VR Simulated Natural Environment? A Comparative Study on Cognition, Well-Being, and Brain Activity.' The Change-Makers Club, ATU.



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2024 Funding and Awards

BOOKS/ BOOK CHAPTERS

Dr Laura Keaver: Oncology and Haematology Chapter in: Essentials of Nutrition in Medicine and Healthcare A Practical Guide. 1st edition

Shaista Jabeen, Sreedhanya Pallilavalappil and Suresh C Pillai. Electrocatalysts for hybrid water electrolysis Chapter in Recent Advances in Materials for Energy Harvesting and Storage. Published August 2024 • Copyright © IOP Publishing Ltd 2024

Dr Kenneth Monaghan. Lights, Mirrors, Action: A Guide to Transforming the Lives of Caregivers and Stroke Survivors. July 2024.

FUNDING & EXTERNAL ENGAGEMENT

Dr Richéal Burns, Dr Michael McCann, Dr Laura Keaver, Dr Helen McGloin and Dr Andrew McCloskey- ATU Project Team on Peace Plus funded project 'PEACETIME' led by Prof Alex Miras in Ulster University. €10m total budget.

Dr Richéal Burns, Dr Michael McCann, Dr Paul Nolan, ATU Project Team on Peace Plus funded project 'imPROVE' led by Dr David Gibson in Ulster University. €10m total budget.

Dr Richéal Burns, Dr Lisa Ryan and Dr Michael McCann, THRIVE PRTP project leads funded by TU Rise, €1.4m. PI's: Prof Suresh Pillai, Dr Laura Keaver, Dr Louise Mc Bride, Dr Martin O'Neill, Dr Helen McGloin, Dr Kevin Craddock, Dr Eamon Laird, Dr Anne Marie Larkin, Dr Carmel Heaney, Dr Anushree Dwived, Dr Ed Daly, Dr Sinead Keogh, Dr Robert Mooney, Dr Erik Mac Giolla, Dr Ronan Doherty, Dr Shane Wilson, Dr William Farrelly, Dr Saim Gafoor, Dr Michelle Queally, Dr Gabriella Gliga, Dr Marion McAfee, Dr Ken VanSomeren, Dr Andrew McCloskey.

O'Callaghan N, Cantwell M and Keaver L. Irish Cancer Society and Irish Association for Cancer Research PhD scholarship in cancer survivorship for 'Healthy Horizons: A Nutrition Programme to Support and Empower Adolescent Survivors of Cancer'

Dr Martin O'Neill, Project Lead on Data2Sustain funded project on Digital Transformation of the Mental Health Crisis Resolution Service, Sligo. €38k.

Dr Richéal Burns, Project Lead on on Data2Sustain funded project on Digital Transformation of services at Sligo University Hospital, Sligo. €38k.

National Implantable Cardioverter Defibrillator (ICD) Therapy Deactivation Guideline Development Group

Background

For patients who are approaching the end of their life, the issue of withdrawal (deactivation) of shock therapy in Implantable Cardioverter Defibrillators continues to be an issue. There are varied levels of service, pathways to access such services. There is also a lack of awareness amongst healthcare professionals, patients, carers and family around the issue.

Paul Nolan is chairing a multidisciplinary group, including key stakeholders, which has the aim of developing a National Guidance Document on Implantable Cardioverter Defibrillators Therapy Deactivation in patients who have been identified as nearing the end of their life. This work is being carried out under the governance of the HSE National Heart Programme. We commenced work in April 2024 and are meeting monthly to progress the work.



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HEAL STRATEGIC PLANNING

A funding application has been submitted to the ATU Unified Budget Submission for 2025. A request for €50,000 to help fund HEAL research activity has been requested. A further €25,000 has been requested to run an ATU Research Conference in 2025 inclusive of all research disciplines.

EU GREEN

BiP: Epidemiology Applications for Health and Sustainability.

Module Leaders: Dr Richeál Burns & Dr Riona Walsh, ATU
Online: April - June 2025

Workshop: August 25th - 29th 2025
Hosts: University of Gävle, Sweden

For more information: Richeal.Burns@atu.ie

Data2Sustain

Funding Available!

U.S. FULBRIGHT SPECIALIST AWARDS

Dr Richeál Burns was successful in an application for 2025 Fulbright Award to fund a specialist in health data analytics and health policy to spend a month in ATU developing the project, *"Innovate Research Practices for Preventative Health."*

MONTHLY SEMINARS CONTINUE!

HEAL Invited Speaker for our first seminar- January 28th 2025



Dr Chiara Pittalis

Research Fellow | Institute of Global Surgery, School of Population Health

Keep HEAL Updated!
[HEAL Member updates.xlsx](#)

HEAL DIRECTORS: Dr Richeál Burns, Dr Konrad Mulrennan, Prof Suresh Pillai