



Royal Brisbane and Women's Hospital

RBWH Research Report 2024

Critical Care and Clinical Support Services

Metro North
Health



Queensland
Government



Metro North Health acknowledges the Traditional Custodians of the Land upon which we live, work and walk, and pay our respects to Elders both past and present.

Published by the State of Queensland (Metro North Hospital and Health Service), 2025

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Department of Intensive Care Services

Research Highlights

The Department of Intensive Care Services has had a highly productive 2024 with activities that spanned across a wide range of study types and disciplines. Members of the department were actively engaged in activities not limited to clinical trials, observational research using complex statewide databases, and translational “bench-to-bedside” research. Departmental research programs attracted tens millions of dollars of individual/collaborative competitive grant support and collectively authored more than 100 peer reviewed publications.

2024 witnessed the presentation and publication of the landmark BLING III study. This multicentred, international clinical trial was led by RBWH investigators (Prof J Lipman, Prof Jason Roberts, Dr J Dulhunty) and investigated the importance of continuous infusion of antimicrobials for serious infections. The paper was published in JAMA and included an accompanying meta-analysis of the world literature. This latter demonstrated an ICU needs to treat 26 patients with severe sepsis with continuous infusions of beta-lactams, as against intermittent infusions, to save one extra life. These two papers have the potential to change practice worldwide. These studies represent the pinnacle of a long standing and comprehensive research program led through the RBWH Department of Intensive Care Services and highlights the remarkable career contributions of Prof Lipman as he retires from clinical practice and critical care medicine.

Associate Professor Jayesh Dhanani was appointed as Director of Research, Medical School, UQ Associate Professor (Research), and Royal Brisbane Clinical School, UQ. The Department of Intensive Care Services welcomed several new consultants and investigators in 2024. Associate Professor (QUT) Mahesh Ramanan joined the department. He has developed a highly productive research program within Metro North with interest in clinical trials of fluid and electrolyte therapies and outcomes research within critical care for which he chairs the Queensland Critical Care Research Network. Professor Samantha Keough was appointed as the Joint Professor, Acute and Critical Care Nursing, QUT and RBWH and brings a wealth of experience and productivity in critical care research especially within the theme of device related infections.

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Hammond N, Venkatesh B, Irwin A, Long D, Gibbons K, Ramanan M , Abbenbroek, B, Dye J	Intensive Care	Consumer and clinician partnership to develop post sepsis follow-up models of care across the lifespan	NHMRC	\$1,478,026	2024-2027
Michael Reade , Walsh T, McKenzie C, Lone N, Aitkin L, Parker R, Kydonaki C, Dark P, Gordon A, Morris S, McAuley D, Weir C, Blackwood B, Page V, Perkins G	Intensive Care	Alpha 2 agonists for sedation to produce Better outcomes from critical illness (A2B Trial): A randomised, parallel-group, allocation concealed, controlled, open, phase 3 pragmatic clinical and cost effectiveness trial with internal pilot	UK NIHR	GBP 1.75 million	2017-2024
Reade MC , Marks D, Weinberg L, Irving D, McQuilten Z, French C, Royse A, Bannon P, Johnson L, Gattas D	Intensive Care	A phase III multicentre blinded randomised controlled clinical trial of cryopreserved platelets vs. conventional liquid-stored platelets for the management of post-surgical bleeding (The Cryopreserved vs. Liquid Platelets trial: CLIP-II)	NHMRC	\$1.83 million	2018-2024

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
French C, Nichol A, Bellomo R, Cooper DJ, Bailey M, Higgins A, McArthur C, Hodgson C, Gabbe B, Duranteau J, Presneill J, Rosenfeld J, Napolitano L, Skrifvars M, Reade MC , Pettila V	Intensive Care	ErythroPOietin alfa to prevent mortality and reduce severe disability in critically ill TRAUMA patients: a multicentre, stratified, double blind, placebo randomised controlled trial. (The EPO-TRAUMA trial)	MRFF	\$3.5 million	2019-2025
Wood E, McQuilten Z, Cooper J, Reade MC , French CJ, Trotman J, Bielby L, Stanworth S, Higgins A, Harris A, Coiera E, Mo A, Flint A, Sanderson B, Reynolds J, Sparrow R, Nailon S, Martin A	Intensive Care	Addressing Australia's National Transfusion Research Priorities	NHMRC	\$3 million	2019-2024
Shehabi Y, Reade MC , Campbell L, Howe B, Webb S, Bellomo R, McArthur C, Presneill J, Hodgson C, Bailey M, Murray L	Intensive Care	Early Sedation with Dexmedetomidine in Older Ventilated Critically Ill Patients: SPICE IV Trial	NHMRC	\$5 million	2019-2025
Nasrallah F, Reutens D, Chandra SS, Walsham J, Russell T, Bhuta S, Ross JP, Winter C, Senthuran S, Bellapart J, Reade MC	Intensive Care	PREDiction and Diagnosis using Imaging and Clinical biomarkers Trial in Traumatic Brain Injury: the value of Magnetic Resonance Imaging (PREDICT-TBI)	MRFF	\$1.75 million	2020-2024
McGuinness S, Charlewood R, Galvin S, Hayes K, Morley S, Moore J, Walker C, Reade MC	Intensive Care	Cryopreserved vs. Liquid Platelets for Surgical Bleeding NZ (CLIP-NZ)	HRC (NZ)	NZ\$1.4 million	2020-2025
McQuilten Z, Winearls J, Cooper J, Reade MC , Wood E, Higgins A, Mitra B, Daly J, Wulschleger M, Balogh Z, French C, Heller G, Presneill J	Intensive Care	Fibrinogen Early In Severe Trauma study (FEISTY II)	MRFF	\$3.1 million	2021-2025
Lankadeva Y, Cook L, Roquilly A, Glassford N, Booth L, Wen SW, Wood A, Ow C, Emery S, Bellomo R, Shehabi Y, Reade MC , May C, Wong C, See E, Bauquier J, Betrie AH, Saxena M, Secombe P	Intensive Care	MEGA-dose aSCORbatE for Sepsis (MEGASCORES): An interdisciplinary research program to transform management of sepsis in intensive care units	MRFF	\$4.9 million	2023-2027
Milford E, Reade MC , Howe B, Trevor D, Irving A, French C, Daly J, Litton E, Flint A, McQuilten Z, Wood E, Mason A, Watkinson P, Rickard C	Intensive Care	The Threshold for Platelets study: a prospective randomised trial to define the platelet count at which critically ill patients should receive a platelet transfusion prior to an invasive procedure	MRFF	\$1.7 million	2023-2027

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Ramanan M, Laupland KB	Intensive Care Services	A novel database-integrated platform for conducting randomised clinical trials in intensive care	Metro North Collaborative Research Grants program	\$49,724.32	
Schults J, Sullivan C, Brankovic A, Laupland KB , Harris P	Intensive Care Services	Prediction of catheter associated bloodstream infection in critically ill adults	Herston Infectious Diseases Institute	\$153,698.00	2024-2025
Dhanani J , Hudson J, Laupland KB , Foster S	Intensive Care Services	The role of bromodomain and extra-terminal domain (BET) containing protein inhibitors in a translational model of sepsis-induced myocardial dysfunction	Metro North Collaborative Research Grants program	\$50,000	2024-2025
Coyer F , Fulbrook P, Ullman A, Keogh S , Duff J, Long D, Barakat-Johnson M, August D, Jones L, Carter H	Intensive Care	Eliminating harm from devices across the life span in critical illness: the DEFENCE study	APP2022546 – NHMRC Partnership Project round	\$1,499,796	2023-2026
Corley A, Bloomer M, Coyer F , Keogh S	Intensive Care	Haemodialysis catheters in the intensive care: a systematic review and exploration of critical care nurses' bedside maintenance practices to address high catheter failure rates	Griffith University New Researcher Grant Scheme	\$17,935	2023-2024
Ullman A, Marsh N, Curley M, Coyer F , Davies M, Keogh S, Kearney L, McBride C, Kleidon P, August D, Takashima M	Intensive Care	Preventing extravasation injuries in neonates and infants: A Type 1 hybrid RCT. (APP2022095)	MRFF Clinician Researcher – Nurses, Midwives and Allied Health	\$1,493,00.00	2023-2026
Panwar R, Tiruvoipati R, McNicholas B, Dhanani J , Saxena M, Nichol A, Bihari S, Kruger P, Shekar K	Intensive Care	Individualised blood pressure targets versus standard care among critically ill patients with shock - a multicentre randomised controlled trial	MRFF Clinical Trials Activity	\$1,740,450	
Eley V., Lehner C., Martin E., Lee N., Donovan T., Dhanani J. , Roberts J	Intensive Care	Nebulised fentanyl for labour pain – a pharmacokinetic and feasibility study	ANZCA Research Grant	\$63,483	
Dhanani J. , Pharo E., Williams S., Parajuli P	Intensive Care	Developing nebulised antiviral drug delivery in a human 3D ex vivo lung model to combat emerging respiratory viruses	HeIDI- CSIRO IDR and AMR Mission- Affiliated Project grant	\$228, 913	
Dhanani J , Reade M, Lisec C, Gray P, Roberts J , Claus A	Intensive Care	Innovation in burns pain management: Does nebulized dexmedetomidine reduce or eliminate the requirement for conventional sedation and analgesia (intravenous ketamine and midazolam) for procedural pain management in burns patients? A pilot phase III randomised controlled crossover trial	Royal Brisbane and Women's Hospital Foundation Grant Special Burns grant	\$59252.40	

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Dhanani J , Vadlamudi L, Roberts J , Jeffree L, Wallis S, Tremayne F	Intensive Care	Are the CSF levels of levetiracetam adequate to prevent and treat seizures?- A prospective observational comparative plasma and cerebrospinal fluid pharmacokinetics-pharmacodynamics study of levetiracetam in aneurysmal subarachnoid haemorrhage and traumatic brain injury	Royal Brisbane and Women's Hospital SERTA grant	\$71689.40	
Dhanani J	Intensive Care	Optimising nebulised analgesia therapy for Queenslanders	Queensland Health Clinician Researcher Fellowship	\$200,000	2023-2027
Jeremy Cohen , Chris Anderson, Craig Andersen, Judith Bellapart , Louise Burrell, Anthony Delaney, Anthony Devaux, David Evans, Emily Fitzgerald, Tessa Garside, Naomi Hammond, Miranda Hardie, Lindy Jeffries, Qiang Li, Gladness Nethanthe, Dorrilyn Rajbhandri, Mahesh Ramanan , Philip Talbot, Colman Taylor, Andrew Udy, Bala Venkatesh, Morag Young	Intensive Care	The FLASH trial	MRFF	\$2.2 Million	2023-2028

RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited
Jason Roberts	Jeffrey Lipman, Jayesh Dhanani, Cheryl Fourie, Janine Stuart , Andrew Udy, Cornelia Landersdorfer, Hafiz Abdul-Aziz, Menino Osbert Cotta, Steven Wallis, Nermin Karamujic, Sia Athanasas, Jan De Waele, Jean-Yves Lefrant, Claire Roger, Lowell Ling, Helmi Sulaiman, Mohd Shahnaz Hasan, Mohamad Fadhil Hadi Jamaluddin	A multi-centre study to define novel individualised dosing regimens to maximise antibiotic effectiveness for treatment of pneumonia in ICU – INTENSE PNEUDOS	14 Total
Jason Roberts	Jeffrey Lipman, Jayesh Dhanani, Cheryl Fourie, Janine Stuart , Andrew Udy, Cornelia Landersdorfer, Hafiz Abdul-Aziz, Nermin Karamujic, Sia Athanasas, Jan De Waele, Jean-Yves Lefrant, Claire Roger, Lowell Ling, Helmi Sulaiman, Mohd Shahnaz Hasan, Mohamad Fadhil Hadi Jamaluddin	A multi-centre study to define novel individualised dosing regimens to maximise antibiotic effectiveness for treatment of pneumonia in ICU – SPARSE PNEUDOS	3-completed in 2023
Jason Roberts	Jeffrey Lipman, Jayesh Dhanani, Kevin Laupland, Patrick Harris, Jacobus	Pharmacokinetic/ pharmacodynamic-optimised beta-lactam dosing to prevent the emergence	25 Total

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited
	Ungerer, Brett McWhinney , Steven Wallis, Menino Osbert Cotta, Hafiz Abdul-Aziz, Gene, Chai, Adam Stewart, Cheryl Fourie	of bacterial resistance: a proof-of-concept - ROAD	4 in 2023-completed
Jeffrey Lipman	John Myburgh, Jason Roberts Stephen Brett, Menino Osbert Cotta, Joel Dulhunty , Dorrilyn Rajbhandari, Parisa Glass, David Paterson ,	A phase III randomised controlled trial of continuous beta-lactam infusion compared with intermittent beta-lactam dosing in critically ill patients – BLING III	245 Total 4 in 2023
Jayesh Dhanani	Jayesh Dhanani, Carl Lisec, Michael Reade, Paul Gray, Jason Roberts, Cheryl Fourie, Andrew Claus, Jason Pincus, Anita Plaza	Evaluating whether nebulized dexmedetomidine can be used for pain management in burn injury dressing changes.: A phase III pilot feasibility, randomized controlled crossover trial.	20 completed 2024
Jeremy Cohen	Antje Blumenthal, Bala Venkatesh	Longitudinal Assessment of WNT pathway activity in patients with sepsis and septic shock – WINTER 2	20 Total 18 in 2023
Liam Coulthard	Charles Yates , Trent Woodruff, Kevin Laupland	Investigating the PROfile of complement activation in relation to Vasospasm, delayed cerebral Ischameia and aneurysmal Subarachnoid haemorrhage Outcomes - PROcVISO	115 Total 8 in 2023
Jayesh Dhanani	Eddie Shen , Simon Foster, Amelia Livermore, Kevin Laupland , James Hudson	The role of bromeodomain and extra-terminal domain (BET) containing protein inhibitors in a translational model of sepsis-induced myocardial dysfunction -BEST/ BETi	71 Total 24 in 2023
Jayesh Dhanani	Vadlamudi L, Roberts J, Jeffree L, Os Cotta M, Wallis S, Tremayne F	Are the CSF levels of levetiracetam adequate to prevent and treat seizures?- A prospective observational comparative plasma and cerebrospinal fluid pharmacokinetics-pharmacodynamics study of levetiracetam in aneurysmal subarachnoid haemorrhage and traumatic brain injury	n=40 19 in 2024
Jeffrey Lipman	Lipman J, Reade M, Denny K, Tabah A, McCullough J, Hajkowicz K, Farr R, Stewart C, Ungerer J, Pretorius C	Distinguishing viral inflammation from bacterial sepsis and non-infectious inflammation– Circulating microRNAs upregulation in Sepsis Biomarker Trial (Microbot)	51 105 total across all sites Completed recruitment
Dr Ashley Doyle	Dr Elissa Milford, Prof Michael Reade	A retrospective cohort study in Queensland: Persistent opioid use in trauma patients following intensive care admission	N/A
Dr Emily Treagust	Dr Elissa Milford	A retrospective cohort study of chemical VTE prophylaxis prescribing practice variation and associated outcomes in severe trauma patients admitted to the intensive care unit of a major metropolitan trauma centre over a four-year period	N/A
Dr Jayanand Mahendra Raj	Dr Neil Widdicombe, Dr Elissa Milford, Prof Kevin Laupland , Ms Ainslie Kirkegaard, Dr Alexis Tabah, Prof Fiona Coyer	Variation of medical and legal practitioners interpretation of the legal time of death in the context of a diagnosis of brain death in Queensland: A survey study	N/A
Dr Elissa Milford	Prof Michael Reade , Prof Russel Gruen, Prof Robert Metcalf	The effect of tranexamic acid on endothelial glycocalyx shedding in severe trauma: A post-hoc laboratory sub-study of the PATCH trial	N/A
Laupland KB	Edwards F, Fourie C , Lipman J, Tabah A, Lefrant JY, Joynt G, Ling L	Physician attire in the intensive care unit and family perceptions: An international study	100
Reade M	Michael Reade , Walsh T, McKenzie C, Lone N, Aitkin L, Parker R, Kydonaki C,	Alpha 2 agonists for sedation to produce Better outcomes from critical illness (A2B Trial): A randomised, parallel-group, allocation	N/A

Lead Investigator Name (RBWH staff in bold)	Other Study Investigators (RBWH staff in bold)	Research Project Title	Number of RBWH Patients Recruited
	Dark P, Gordon A, Morris S, McAuley D, Weir C, Blackwood B, Page V, Perkins G	concealed, controlled, open, phase 3 pragmatic clinical and cost effectiveness trial with internal pilot	
Reade M	Reade MC , Marks D, Weinberg L, Irving D, McQuilten Z, French C, Royse A, Bannon P, Johnson L, Gattas D	A phase III multicentre blinded randomised controlled clinical trial of cryopreserved platelets vs. conventional liquid-stored platelets for the management of post-surgical bleeding (The Cryopreserved vs. Liquid Platelets trial: CLIP-II)	N/A
French C	French C, Nichol A, Bellomo R, Cooper DJ, Bailey M, Higgins A, McArthur C, Hodgson C, Gabbe B, Duranteau J, Presneill J, Rosenfeld J, Napolitano L, Skrifvars M, Reade MC , Pettila V	ErythroPOietin alfa to prevent mortality and reduce severe disability in critically ill TRAUMA patients: a multicentre, stratified, double blind, placebo randomised controlled trial. (The EPO-TRAUMA trial)	19
Wood E, McQuilten Z	Wood E, McQuilten Z, Cooper J, Reade MC , French CJ, Trotman J, Bielby L, Stanworth S, Higgins A, Harris A, Coiera E, Mo A, Flint A, Sanderson B, Reynolds J, Sparrow R, Nailon S, Martin A	Addressing Australia's National Transfusion Research Priorities	N/A
Fatima Nasrallah	Judith Bellapart , David Reutens , Shekhar Chandra, James Walsham, Trevor Russell, Sandeep Bhuta, Jason Ross, Craig Winter , Siva Senthuran	Prediction and diagnosis using imaging and clinical biomarkers trial in traumatic brain injury – PREDICT – TBI	82 Total 17 in 2024
Shehabi Y	Shehabi Y, Reade MC , Campbell L, Howe B, Webb S, Bellomo R, McArthur C, Presneill J, Hodgson C, Bailey M, Murray L	Early Sedation with Dexmedetomidine in Older Ventilated Critically Ill Patients: SPICE IV Trial.	7
McGuinness S	McGuinness S, Charlewood R, Galvin S, Hayes K, Morley S, Moore J, Walker C, Reade MC .	Cryopreserved vs. Liquid Platelets for Surgical Bleeding NZ (CLIP-NZ)	N/A
Lankadeva Y	Lankadeva Y, Cook L, Roquilly A, Glassford N, Booth L, Wen SW, Wood A, Ow C, Emery S, Bellomo R, Shehabi Y, Reade MC , May C, Wong C, See E, Bauquier J, Betrie AH, Saxena M, Secombe P	MEGA-dose aSCORbatE for Sepsis (MEGASCORES): An interdisciplinary research program to transform management of sepsis in intensive care units	
McQuilten Z	McQuilten Z, Winearls J, Cooper J, Reade MC , Wood E, Higgins A, Mitra B, Daly J, Wulschleger M, Balogh Z, French C, Heller G, Presneill J	Fibrinogen Early In Severe Trauma study (FEISTY II)	4
Milford E	Milford E , Reade MC , Howe B, Trevor D, Irving A, French C, Daly J, Litton E, Flint A, McQuilten Z, Wood E, Mason A, Watkinson P, Rickard C	The Threshold for Platelets study: a prospective randomised trial to define the platelet count at which critically ill patients should receive a platelet transfusion prior to an invasive procedure	N/A
Jeremy Cohen	Chris Anderson, Craig Andersen, Judith Bellapart , Louise Burrell, Anthony Delaney, Anthony Devaux, David Evans, Emily Fitzgerald, Tessa Garside, Naomi Hammond, Miranda Hardie, Lindy Jeffries, Qiang Li, Gladness Nethanthe, Dorrilyn Rajbhandri, Mahesh Ramanan , Philip Talbot, Colman Taylor, Andrew Udy, Bala Venkatesh, Morag Young	The FLASH trial; Fludrocortisone in Aneurysmal Sub arachnoid haemorrhage	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement
Deborah Cool	Jason Pincus , Dorrilyn Rajbhandari, Serena Knowles, Nicole Zytaruk, Diane Heels-Ansdell	Re-Evaluating the Inhibition of Stress Erosions and prophylaxis against gastrointestinal bleeding in the critically ill trial – REVISE	69 Total 22 in 2023
Prof Sandra Peake and Dr Stephen Macdonald	A/Prof Anthony Delaney, Prof Gerben Keijzers, Prof Andrew Udy, A/Prof Glenn Arendts, Prof Diana Egerton-Warburton, Prof Daniel Fatovich, Dr Lisa Higgins, Dr Elissa Milford	Australasian Resuscitation In Sepsis Evaluation: FLUId or vasopressors In emergency Department Sepsis (ARISE FLUIDS)	N/A
Prof Peter Watkinson	Dr Elissa Milford , Prof Michael Reade , Dr Andrew Flint , Prof Claire Rickard, Dr James Daly, Prof Ed Litton, Prof Zoe McQuilten, Dr Adam Irving, Mr Dale Trevor, Ms Kate Wilson, Ms Belinda Howe, Dr Alexina Mason, A/Prof Craig French, Prof Erica Wood	The Threshold for Platelets study (T4P): a prospective randomised trial to define the platelet count at which critically ill patients should receive a platelet transfusion prior to an invasive procedure	Recruitment yet to commence
Raman V	Laupland KB , Ungerer J, Pretorius C, Zournazi A	A pilot study correlating hormone marker profiles with the clinical aetiological diagnosis of early hyponatraemia amongst ICU patients with spontaneous subarachnoid haemorrhages	1 in 2024
Ramanan M	Laupland KB , Tabah A, Edwards F , Clement P , Chapple B, Jacobs K, Brady K, Kelly C, Young P, Karamujic N , Gattton M	Liberal versus restrictive phosphate replacement for critically ill patients treated in an intensive care unit: a pilot, cluster, crossover, randomised, controlled trial	
Andrew Udy	Judith Bellapart , Alexios Adamides, James Anstey, Michael Bailey, Jamie Cooper, Anthony Delaney, Kate Drummond, Matthias Hanggi, Lisa Higgins, Olivier Huet, Martin Hunn	Brain oxygen neuromonitoring in Australia and New Zealand assessment global trial – BONANZA GT	1

Research Publications

Authors

Investigator	ORCID ID
Prof. Michael Reade	0000-0003-1570-0707
Dr Elissa Milford	https://orcid.org/0000-0003-1893-3223
Prof. Kevin B Laupland	https://orcid.org/0000-0002-1205-5354
A/Prof Jayesh Dhanani	0000-0001-9803-9701
A.Prof Jeremy Cohen	0000-0002-1356-8506
Mahesh Ramanan	0000-0003-4509-4015

Publications in 2024

Journal Articles (RBWH staff or consumers in bold)

Abdul-Aziz, M. H., Diehl, A., Liu, X., Cheng, V., Corley, A., Gilder, E., Levkovich, B., McGuinness, S., Ordonez, J., Parke, R., Pellegrino, V., Wallis, S. C., Fraser, J. F., Shekar, K., & **Roberts, J. A.** (2025). Population pharmacokinetics of caspofungin in critically ill patients receiving extracorporeal membrane oxygenation-an ASAP ECMO study. Antimicrob Agents Chemother, 69(2), e0143524. <https://doi.org/10.1128/aac.01435-24>

Journal Articles (RBWH staff or consumers in bold)

- Abdul-Aziz, M. H., Dulhunty, J. M., Rajbhandari, D., **Roberts, J. A.**, & **Lipman, J.** (2024). Is it time to implement prolonged infusions of beta-lactam antibiotics in and beyond critical care settings? *Intern Med J*, 54(12), 1931-1934. <https://doi.org/10.1111/imj.16584>
- Abdul-Aziz, M. H., Hammond, N. E., Brett, S. J., Cotta, M. O., De Waele, J. J., Devaux, A., Di Tanna, G. L., Dulhunty, J. M., Elkady, H., Eriksson, L., Hasan, M. S., Khan, A. B., **Lipman, J.**, Liu, X., Monti, G., Myburgh, J., Novy, E., Omar, S., Rajbhandari, D., **Roberts, J. A.** (2024). Prolonged vs Intermittent Infusions of β -Lactam Antibiotics in Adults With Sepsis or Septic Shock: A Systematic Review and Meta-Analysis. *Jama*, 332(8), 638-648. <https://doi.org/10.1001/jama.2024.9803>
- Adigbli, D., Liu, R., Meyer, J., **Cohen, J.**, Di Tanna, G. L., Gianacas, C., Bhattacharya, A., Hammond, N., Walsham, J., Venkatesh, B., Hotchkiss, R., & Finfer, S. (2024). early persistent lymphopenia and risk of death in critically ill patients with and without sepsis. *Shock*, 61(2), 197-203. <https://doi.org/10.1097/shk.0000000000002284>
- Ahuja, A., Baker, T., & **Ramanan, M.** (2024). Impact of frailty on outcomes after cardiac surgery. *J Thorac Cardiovasc Surg*. <https://doi.org/10.1016/j.jtcvs.2024.05.025>
- Aitken, L. M., Emerson, L. M., Kydonaki, K., Blackwood, B., Creagh-Brown, B., Lone, N. I., McKenzie, C. A., **Reade, M. C.**, Weir, C. J., Wise, M. P., & Walsh, T. S. (2024). Alpha 2 agonists for sedation to produce better outcomes from critical illness (A2B trial): protocol for a mixed-methods process evaluation of a randomised controlled trial. *BMJ Open*, 14(4), e081637. <https://doi.org/10.1136/bmjopen-2023-081637>
- Assefa, G. M., **Roberts, J. A.**, Mohammed, S. A., & Sime, F. B. (2024). What are the optimal pharmacokinetic/pharmacodynamic targets for β -lactamase inhibitors? A systematic review. *J Antimicrob Chemother*, 79(5), 946-958. <https://doi.org/10.1093/jac/dkac058>
- Ates, H. C., Alshanawani, A., Hagel, S., Cotta, M. O., **Roberts, J. A.**, Dincer, C., & Ates, C. (2024). Unraveling the impact of therapeutic drug monitoring via machine learning for patients with sepsis. *Cell Rep Med*, 5(8), 101681. <https://doi.org/10.1016/j.xcrn.2024.101681>
- Attokaran, A. G., White, K. C., Doola, R., McIlroy, P., Senthuran, S., Luke, S., Garrett, P., Tabah, A., Shekar, K., **Edwards, F.**, White, H., McCullough, J. P., Hurford, R., **Clement, P.**, **Laupland, K. B.**, & **Ramanan, M.** (2024). Epidemiology of hypophosphatemia in critical illness: A multicentre, retrospective cohort study. *Anaesth Crit Care Pain Med*, 43(5), 101410. <https://doi.org/10.1016/j.accpm.2024.101410>
- Barton, G., Rickard, C. M., & **Roberts, J. A.** (2024). Continuous infusion of beta-lactam antibiotics in critically ill patients with sepsis: implementation considerations. *Intensive Care Med*, 50(12), 2150-2153. <https://doi.org/10.1007/s00134-024-07650-x>
- Barton, G., Rickard, C. M., & **Roberts, J. A.** (2025). Considerations for β -lactam antimicrobial continuous infusion. Authors' reply to Massart et al. and Marzaroli et al. *Intensive Care Med*, 51(1), 230-231. <https://doi.org/10.1007/s00134-024-07724-w>
- Baschetti, M., Stewart, A., Bartalucci, C., Vena, A., Giacobbe, D. R., & **Roberts, J.** (2025). Rezafungin acetate for the treatment of candidemia and invasive candidiasis: a pharmacokinetic evaluation. *Expert Opin Drug Metab Toxicol*, 21(2), 125-132. <https://doi.org/10.1080/17425255.2024.2424899>
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Book Chapters (RBWH staff in bold)

- Reade MC.** Critical care of the trauma patient. In: *Manual of the Definitive Surgery in Trauma Care*, 6th edition. Boffard K, ed. Boca Raton: CRC Press, 2024, 277-302
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Keynote or Plenary Lectures given in 2024

Date	Title
October 2024	Reade MC. Why don't they just follow the guideline? The value of team identity in implementation science. Gordon Trinca Lecture, Australasian Trauma Society, Brisbane, 2024.
October 2024	Reade MC & Marks DC. Cryopreserved Platelets: From Bench to Bedside. AABB Annual Meeting, Houston, 2024 (Plenary session: first presentation of the CLIP-II trial results).

Department of Medical Imaging

Research Highlights!

In 2024, research led by the Department of Medical Imaging covered a wide array of topics, such as enhancing patient outcomes in interventional radiology, refining imaging techniques to boost diagnostic accuracy and cut healthcare costs and exploring the potential and impact of new medical imaging software and hardware on disease diagnosis and treatment.

The department once again had a strong presence at both national and international conferences, with our clinical staff delivering over 30 peer-reviewed conference presentations in addition to the 20 invited lectures noted in this report. Additionally, four staff members received scientific awards for their research presentations.

DMI staff collaborated with various departments and external organisations on numerous projects, and the department supported over 80 research studies established by other RBWH departments or external research groups. Our consultants, registrars, radiographers, and nurses provided expertise on imaging protocols, clinical diagnosis, and interventional procedures to best support these projects.

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
Cameron Brown	People's Choice Award – Medical Imaging	Australian Society of Medical Imaging and Radiation Therapy ASM 2024
Stephanie Plunkett, Karen Dobeli, Marita Prior, Xanthe Tusek	Best original article 2024	Journal of Medical Radiation Sciences
Greg Tarr	2024 Paul Dudley White Award for best scientific paper	International Stroke Conference 2024
Nicholas Watson	Queensland Branch ASM Branch of Origin Research Award	Royal Australian and New Zealand College of Radiologists QLD Branch ASM 2024

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Karen Dobeli , Peter Kench, Stacey Llewellyn	Department of Medical Imaging	3-Dimensional spectral CT analysis of body lesions: a pilot study	Australian Society of Medical Imaging and Radiation Therapy	\$10,000	2 years, 2023-2024
Katherine McCoombe, Karen Dobeli , Peter Kench, Steven Meikle	Department of Medical Imaging	Spectral CT urogram imaging protocol optimisation	Australian Society of Medical Imaging and Radiation Therapy	\$5,000	2 years, 2023-2024
Pranathi Settipalli, Sam Davis, Nigel Mott	Department of Medical Imaging	Comparison of long-term outcomes after medical management versus suction thrombectomy for pulmonary embolism	Royal Australian and New Zealand College of Radiologists	\$3,450	1 Year, 2024

RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Alan Coulthard	Rebecca Liong, Marita Prior, Ee Shern Liang, Anita Pelecanos, Jeffery Lipman, Jason Roberts, Steve O'Donoghue	EPICCS II	3	118

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Alan Coulthard	Lindy Jeffree, Nicole Waters, Thomas Robertson, David Reutens, Maria Saithi, Jeff Hocking	High field magnetic resonance imaging of hippocampal sclerosis	3	9
Alan Coulthard	Gregory Lock	A feasibility study for the DAISe EZ Thrombectomy Device	3	0
Alan Coulthard	Grace Aw, Ken Mitchell, Gregory Lock, John (Dan) Hilton,	Phase 1 clinical study to assess deliverability, visibility, safety, and performance of the Intracranial Stent System for endovascular treatment of unruptured wide-necked aneurysms	3	0
Alan Coulthard, Craig Winter,	Zhiyong Li, Ee Shern Liang, Pranathi Settipalli, Aiyapa Ajjikuttira, Jessica Mendieta, Haveena Anbananthan	Identifying vulnerable intracranial aneurysms using MR vessel wall imaging and correlating with intra-aneurysmal computational fluid dynamics, aneurysm morphology and aneurysm thin-walled regions	3	N/A
Karen Dobeli	Karin Steinke, Timothy Wastney, Peter Kench, Amanda Wright, Mykaela Gordon, Philip Miller, Wilbur Wong, Kim Nguyen, Rachael Anstey, Stacey Llewelyn	3-Dimensional spectral CT analysis of body lesions: A pilot study	3	N/A
Ee Shern Liang	Alan Coulthard, Craig Winter, Kennedy Wong, Rohan Tollenaere, Marita Prior	High resolution vessel wall imaging in ruptured intracranial aneurysms	3	18
Katherine McCoombe	Karen Dobeli, Peter Kench, Steven Meikle, Stacey Llewelyn	Uric acid versus no uric acid urinary calculi: in vivo differentiation using detector-based spectral CT	3	N/A
Katherine McCoombe	Karen Dobeli, Peter Kench, Steven Meikle, Dean McCoombe, Timothy Wastney, Stacey Llewelyn	Virtual non contrast (vNCT) reconstruction compared with true non contrast (tNCT) in spectral CT Urogram for the detection of renal calculi in patients with haematuria	3	N/A
Katherine McCoombe	Karen Dobeli, Peter Kench, Steven Meikle, Stacey Llewelyn	Characterisation of urinary calculi in presence of iodinated contrast medium using spectral CT: a phantom study	4	N/A
Phillip Melville, Timothy Wastney, Karen Dobeli		Detector based spectral CT for the detection of non-calcified gallstones	3	N/A
Pranathi Settipalli, Lachlan Inch, Andrew Taylor, Sam Davis, Nigel Mott	Chris Zappala, Robert Boots	Comparative study of long-term outcomes after management of pulmonary embolism	3	8
Karin Steinke, Lizbeth Kennedy	Catherine Bettington, Gary Pratt, Philip Chan	MASTER	3	5
Olivia Wu, Karen Doheny, Karen Dobeli, Megan Kenna	Lee Jones	Correlation between iodine density in normal abdominal tissue on spectral CT and patient size	3	N/A

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
David Fielding	Karin Steinke	Improving genomic testing rate for inoperable lung cancer patients - combining imaging and cell free tumour DNA.		
Kirsten Hepburn	Pedro Franca Gois, Helen Healy, Martin Wolley, Carla Scuderi, Dwaraka Ranganathan, Nigel Mott	Desmopressin Acetate (DDAVP) to prevent post-Biopsy BLEeding in percutaneous kidney biopsy: a randomized, double-blind, placebo-controlled trial.		
Helen Kavnoudias	Nigel Mott, Ken Mitchell	The Australian Vertebroplasty Registry (VAST Registry)		
Giovanni Mandarano	Karen Dobeli, Jacqueline Schneicher	Analysing spectral detector CT images with IntelliSpace Discovery software to map zinc and magnesium levels in the prostate gland to distinguish normal and disease affected tissue	3	N/A
Kristen Moloney	Andreas Obermair, Neville F Hacker, Carlos Salomon, Eva Baxter, Shohreh Rezai	Feasibility of Groin Ultrasound to Predict Groin Lymph Node Involvement in Patients with Histologically Proven Vulvar Cancer (Pre-ANVU)		
James Novak	Richard Harris, Craig Winter, Danilo Carluccio, Martin Batstone, Alexander Murray-Douglass, Jennifer Gillespie, Andrew Groundwater, Perry Cleland	Orbital segmentation variability between clinicians and engineers: an agreement study		
Andreas Obermair	Shohreh Rezai,	Randomised Feasibility Study of Groin Ultrasound Surveillance Versus Groin Node Surgery to De-Escalate the Extent of Surgery in Queensland Women with Vulvar Cancer (NODE Study)		
John O'Sullivan	Jennie Roberts, Peter Nestor, Clare Berry, Marita Prior, Robert Adam, Katie McMahon, Paul Thomas, Pranav Sharma, Lisa Gribbin, Karen Lindsay	Validating Magnetic Resonance Diagnosis in Parkinson's Disease		
Ryan Sommerville	Charles Lin, Jennifer Gillespie, Paul Thomas, Brett Hughes, Gishan Ratnayake, Chris Oosthuizen, Catherine Barnett, Ashivini Abeysekara, Jason Papacostas, Touraj Taheri	Utility of high-resolution MRI for Perineural Spread of Head and Neck Cancers		
Craig Winter Ryan Sommerville	Hamish Alexander, Abigail Walker, Wallace Walker, Timothy Sullivan, Jennifer Gillespie, Stephanie Yau	The Use of Ultra High-resolution MRI for the assessment of Cranial Neuropathies in Base of Skull Tumours		
Lucas Wheatley	Michael Rudd, Perry Cleland, Jacelle Warren	Review of hollow viscus injury and its association with cutaneous and radiological seatbelt signs		

Research Publications

Authors

Investigator	ORCID ID	Investigator	ORCID ID
Alan Coulthard	https://orcid.org/0000-0003-1110-9207	Aiyapa Ajjikuttira	
Naomi Dare	https://orcid.org/0000-0001-7067-878X	Grace Aw	
Karen Dobeli	https://orcid.org/0000-0001-6655-8566	Cameron Brown	
Michelle Fenech	https://orcid.org/0000-0003-40188-2645	Greg Lock	
Jennifer Gillespie	https://orcid.org/0000-0001-7618-086X	Brendan Loh	
Catherine Jones	https://orcid.org/0000-0003-2399-8929	Ken Mitchell	
Rebecca Liong	https://orcid.org/0000-0002-6780-8034	Kathy Murthy	
Katrina Southam	https://orcid.org/0000-0001-5320-0362	Stephanie Plunkett	
Karin Steinke	https://orcid.org/0000-0003-0548-1512	Dan Hilton	
Katherine McCoombe		Pranav Sharma	
Xanthe Tusek		Timothy Wastney	
Elizabeth Wignall		Nicholas Watson	

Publications in 2024

Journal Articles (RBWH staff or consumers in bold)

Brown C, Burck A, Neep MJ. Workload as a predictor of radiographer preliminary image evaluation accuracy. *J Med Radiat Sci*. 2024;71(4):547-554. doi:10.1002/jmrs.803

Chintapalli R, Nguyen S, Taussky P, Grandhi R, Dammann P, Raygor K, Tonetti D, Andersson T, White P, Ogilvy CS, Chapot R, Fox C, Tawk RG, Lanzino G, Hanel R, Jadhav A, Hassan A, Linfante I, Almefty R, Mascitelli J, Fargen K, Levitt MR, Burkhardt J, Jankowitz BT, Jabbour P, Starke RM, Gross BA, Kan P, Killer-Oberpfalzer M, Rautio R, Dmytirw AA, **Coulthard A**, Dabus G, Raper D, Deuschl C, Kilburg C, Budohoski KP, Abila AA. . Management of failed flow diversion for intracranial aneurysm beyond the first 6 months of follow-up: an international Delphi consensus. *J Neurosurg*. 2024;141(5):1225-1234. doi:10.3171/2024.3.JNS2499

Fenech M, Boyle J, Roche B. Sonographic imaging of the genicular nerves of the knee. *Ultrasound*. 2025;33(1):49-57. doi:10.1177/1742271X241252297

Fenech M, **Ajjikuttira A**, **Edwards H**. Ultrasound assessment of acute Achilles tendon rupture and measurement of the tendon gap. *Australas J Ultrasound Med*. 2024;27(2):106-119. Published 2024 Apr 17. doi:10.1002/ajum.12384

Lane AM, Christie J, Arthurs OJ, Goergen SK. In-utero post-mortem MRI, opportunistic imaging with diagnostic yield. *Prenat Diagn*. 2024;44(9):1123-1125. doi:10.1002/pd.6582

Mander G, Starkey D, **Dobeli K**. Imaging personnel are key to improved imaging service delivery in rural areas. *Aust J Rural Health*. 2024;32(6):1258-1259. doi:10.1111/ajr.13197

Saks R, Shatzkes D, **Gillespie J**. Pictorial Review of Cranial Nerve Denervation in the Head and Neck. *Radiographics*. 2024;44(10):e240023. doi:10.1148/rg.240023

Settipalli KP, **Dunkerton S**, **Hilton J**, **Aw G**, **Lock G**, **Mitchell K**, **Coulthard A**. The ELVIS study: Medium and long-term Efficacy of LVIS EVO stent-assisted coil embolisation for unruptured saccular intracranial aneurysms-A tertiary single-centre experience. *J Med Imaging Radiat Oncol*. Published online December 12, 2024. doi:10.1111/1754-9485.13820

Watson N, **Droder B**, **Mitchell G**, Hacking C. Head, face and neck injury patterns for electric scooter accidents identified on computed tomography scanning: Does legislative change enforcing safer riding practices have an impact on morbidity for significant head, face and neck trauma?. *J Med Imaging Radiat Oncol*. 2024;68(7):796-804. doi:10.1111/1754-9485.13788.

Keynote or Plenary Lectures given in 2024

Date	Title
04/05/2024	Gillespie J. Imaging of skull base lesions. Australian and New Zealand Society of Neuroradiology (ANZSNR) ASM 2024

04/05/2024	Lane A. Imaging of cysts of the female lower genitourinary tract. Abdominal Radiology Group Australia and New Zealand (ARGANZ) 2024
10/05/2024	Moore C. Session chair – Digital health session. Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) 2024
20/05/2024	Gillespie J. Imaging of skin cancer. American Society of Neuroradiology (ASNR) 2024
29/05/2024	Davis S. Intermediate risk PE- Management and catheter directed therapies. The College of Intensive Care Medicine of Australia and New Zealand
31/05/2024	Edwards H. Popliteal entrapment syndrome workshop. Australasian Sonographers Association (ASA) Annual International Conference 2024
31/05/2024	Edwards H. Cystic adventitial disease. Australasian Sonographers Association (ASA) Annual International Conference 2024
31/05/2024	Edwards H. Session chair – General abdomen session. Australasian Sonographers Association (ASA) Annual International Conference 2024
22/07/2024	Gillespie J. Salivary gland tumours. Radiopaedia
21/08/2024	Roberts J. How to diagnose early glioblastoma. Imaging features on MRI and CT. Radiology Across Borders - August
22/08/2024	Doheny K. Managing across cultures, seeking to understand each other. Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) MRS Clinical Educator Forum 2024
06/09/2024	Gillespie J. Imaging of otalgia. American Society of Head and Neck Radiology (ASHNR) 2024 Valvasorri lecture.
07/09/2024	Jones C. Mobile CT screening for lung cancer in Australia. World Lung Cancer Conference
15/10/2024	Singh T. Butterfly effect of radiological errors. European Society of Emergency Radiology (ESR)
17/10/2024	Davis S. Session chair. Royal Australian and New Zealand College of Radiologists (RANZCR) ASM
17/10/2024	Mott N. Session chair. Royal Australian and New Zealand College of Radiologists (RANZCR) ASM
19/10/2024	Davis S. Liver Augmentation - IR Approach. Royal Australian and New Zealand College of Radiologists (RANZCR) ASM
02/11/2024	Lane A. The fetal CSO: the tip of the iceberg. Australasian Society for Ultrasound in Medicine (ASUM) 2024
15/11/2024	Jones C. Artificial intelligence and the diagnostic revolution – how AI is transforming radiology. Clinical Oncology Society of Australia (COSA) ASM
03/12/2024	Jones C. Session chair – Best practice in AI deployment. Radiological Society of North America (RSNA) ASM

Department of Nuclear Medicine

Research highlights

The Department of Nuclear Medicine at the Royal Brisbane and Women's Hospital (RBWH) is one of the largest in Australia. It provides a referral, diagnostic and therapeutic nuclear medicine service with four SPECT/CT gamma cameras and one SPECT. Research interests in nuclear medicine include image reconstruction methodologies, application of gating and bone mineral densitometry in various disease states.

The department hosts the state-wide Specialised PET Services Queensland, which operates two state-of-the-art PET/CT scanners and Q-TRaCE, a TGA accredited radiopharmaceutical laboratory operating a cyclotron. It offers research facilities to a wide variety of investigators. In addition to conventional tracers such as fluorodeoxyglucose (^{18}F FDG), the Service also conducts and supports research using [^{18}F]DOPA, [^{18}F]RP-115, [^{18}F]FEOBV, [^{18}F]NAV-4694, [^{18}F]MK-6240 and [^{68}Ga]Ga-DOTATATE, [^{68}Ga]Ga-PSMA-11, and [^{68}Ga]Ga-FAPI-46. There is also ongoing research interest in image reconstruction algorithms, respiratory gating and image analysis techniques.

The department also provides a theranostic radionuclide service for patients with inoperable neuroendocrine tumours as well as participation in multi-centre trials for the treatment of metastatic prostate, neuroendocrine tumour (NET), merkel cell and thyroid cancer. Whilst predominantly focused upon clinical service delivery, retrospective analysis of patients previously treated in our statewide NET service aims to more effectively tailor our treatment to patients most likely to benefit and minimise the risk of side effects.

TheraP Lu-PSMA multicentre RCT: recruited ahead of schedule, RBWH was 3rd highest recruitment of 11 national sites. Results were presented at American Society of Clinical Oncology meeting in 2020 and published in *The Lancet* 2021 and *Lancet Oncology* 2023. Ongoing support for Herston Imaging Research Facility projects including joint appointment of a NIF Radiochemistry Fellow (UQ/HIRF) working in the Q-TRaCE laboratories.

In collaboration with Cancer Care Services, RBWH nuclear medicine participated in 8 multicentre radionuclide therapy trials this year:

- UpFront PSMA study (prostate cancer)
- ENZA-p study (prostate cancer)
- EVOLUTION study (prostate cancer)
- GoTHAM study (Merkel cell carcinoma)
- I-FIRST study – central dosimetry / image review site (radioactive iodine refractory thyroid cancer)
- New radiopharmaceuticals implemented and used in clinical research studies since 2022
- [^{68}Ga]FAPI-46 for pancreatic cancer imaging (imaging at HIRF)

Lead site for first in human phase 1 study using Pb212-ADVC001 (Pb targeted alpha radionuclide therapy for prostate cancer). We provided expert radiopharmaceutical, medical physics and clinical support to development and implementation of this trial which commenced recruitment in late 2023.

Successful Research Higher Degree candidates in 2024

Name	Title	Month Completed	Affiliated University	Summary
Dr Simon Ryder, (MPhil) (Supervisors: David Pattison , Emma Duncan)	State-of-the-art imaging and genetic testing for pheochromocytomas and paragangliomas: the Royal Brisbane experience	December 2024	University of Queensland	Summary: The first aim was to compare clinical practice at a PPGL tertiary referral centre against international consensus towards universal genetic testing to determine the extent of genetic testing of individuals with PPGL and factors associated with genetic testing. It was hypothesised that this centre meets the target of universal genetic testing. The second aim was to evaluate clinical practice at the same centre with continuous access to all relevant PPGL imaging modalities (including [18F]-FDOPA, [65Ga]-DOTATATE and [123I]-MIBG) and determine the extent to which modality selection aligned with EANM/SNMMI guidelines. It was hypothesised that this institution's choice of MI modalities evolved over time and became progressively aligned with EANM/SNMMI guidelines. The final aim was to determine the management impact of MI for individuals referred with possible or suspected PPGL. It was hypothesised that MI has a positive incremental value in PPGL management.

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Rose S, Puttick S, Hofman MS, Singh A, Emmett L, Thurect K, Pattison DA , Egan G, Kong G, Bezak E, Barkil C, Ioppolo J	Nuclear Medicine & PET Services	Australian Research Network for Translation of Targeted Alpha Therapies	MRFF – National Critical Research Infrastructure	\$9.8 million	2022 - ongoing
Cavallucci D , Simpson F, McGahan W, Hooper J, Thomas P , Butler N	Nuclear Medicine & PET Services, Surgery	Can the molecules carried by exosomes help to diagnose pancreatic cancer early?	Pankind	\$100,000	2 years, 2022-2024
Scott A, Robinson R, Pattison DA , Gilfillan C, Clifton-Bligh R, Bailey D, Francis R, Barnes E, Solomon B, Mulhern B	Nuclear Medicine & PET Services	Medical Research Future Fund (MRFF) grant for I-124 PET Directed Redifferentiation Therapy for Radioiodine Refractory Thyroid Cancer: the I-FIRST Study	MRFF – Rare Cancers Rare Diseases & Unmet Need	\$2.7 million	2021 – 2025
Wootton E , Pattison DA , McLeod D , Donovan P , Wong C , Campbell L , Pelecanos A, Collins L, Amjadeen M	Nuclear Medicine & PET Services, Endocrinology, Endocrine Surgery	Pilot evaluation of [18F] FCH PET/CT vs conventional imaging techniques (neck US, 4DCT and sestamibi SPECT/CT) for localization of primary hyperparathyroidism	Queensland Technology Future Fund (QTFF)	\$244,246	2 years, 2024-2026
Burge M , Wyld D , Pattison DA , Chantrill L, Michael M, Whitehall V, De Abreu Lourenco R, Price T, Ng CA, Chan D, Ransom D	Nuclear Medicine & PET Services, Medical Oncology	Cessation of Somatostatin Analogues after Peptide radionuclide Therapy in non-functioning mid-gut Neuroendocrine tumours (STOPNET Trial)	Medical Research Future Fund – Rare Cancers Rare Diseases and Unmet Need	\$1.285 million	5 years, 2024-2028

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Wyld D, Pattison DA	Campbell L, Latter M, Dhiantravan N, Francis RJ, Lucas C, Brady J, Kuchel A, Goh J, Gan CL , Griffiths, M, Wallace, B	Phase Ib/Ila Dose Escalation and Expansion Study of [212Pb]Pb-ADVC001 in Metastatic Castration Resistant Prostate Cancer (TheraPb – Phase I/II Study		7

Research Publications

Authors

Investigator	ORCID ID
David Pattison	https://orcid.org/0000-0001-9718-5598
Melissa Latter	0000-0001-5382-9611

Publications in 2024

Journal Articles (RBWH staff or consumers in bold)

A Method for Validating PET and SPECT Cameras for Quantitative Clinical Imaging Trials Using Novel Radionuclides, Dale L. Bailey^{1,2}, Kathy P. Willowson^{1,3}, Graeme O'Keefe⁴, **Steven Goodman⁵**, **Shaun Patford⁵**, George McGill⁶, **David A. Pattison⁵**, and Andrew M. Scott^{4,7}; on behalf of the I-FIRST investigators and ARTnet

Matthew R. Griffiths, David A. Pattison, Melissa Latter, Kevin Kuan, Stephen Taylor, William Tieu, Thomas Kryza, Danielle Meyrick, Boon Quan Lee, Aaron Hansen, Stephen E. Rose, Simon G. Puttick: First-in-Human ²¹²Pb-PSMA-Targeted α-Therapy SPECT/CT Imaging in a Patient with Metastatic Castration-Resistant Prostate Cancer: Journal of Nuclear Medicine Apr 2024, 65 (4) 664; DOI: 10.2967/jnumed.123.267189

Azad AA, Bressel M, Tan H, Voskoboinik M, Suder A, Weickhardt AJ, Guminski A, **Francis RJ**, Saghebi J, **Dhiantravan N**, Joshua AM, Emmett L, Horvath L, Murphy DG, Hsiao E, Balakrishnar B, Lin P, Redfern A, Macdonald W, Ng S, Lee ST, **Pattison DA**, Nadebaum D, Kirkwood ID, Hofman MS; UpFrontPSMA Study Team. Sequential [177Lu]Lu-PSMA-617 and docetaxel versus docetaxel in patients with metastatic hormone-sensitive prostate cancer (UpFrontPSMA): a multicentre, open-label, randomised, phase 2 study. Lancet Oncol. 2024; 25(10):1267-1276. doi: 10.1016/S1470-2045(24)00440-6

Grady E, **Pattison DA**, Redman S, Satoh Y. The Global Reading Room: Performing a Ventilation-Perfusion Study in a Patient With Recent COVID-19. AJR Am J Roentgenol. 2024 May 1. doi: 10.2214/AJR.24.31348

Emmett L, Subramaniam S, Crumbaker M, Nguyen A, Joshua AM, Weickhardt A, Lee ST, Ng S, **Francis RJ, Goh JC, Pattison DA**, Tan TH, Kirkwood ID, Gedye C, Rutherford NK, Sandhu S, Kumar AR, Pook D, Ramdave S, Nadebaum DP, Voskoboinik M, Redfern AD, Macdonald W, Krieger L, Schembri G, Chua W, Lin P, Horvath L, Bastick P, Butler P, Zhang AY, Yip S, Thomas H, Langford A, Hofman MS, McJannett M, Martin AJ, Stockler MR, Davis ID [177Lu]Lu-PSMA-617 plus enzalutamide in patients with metastatic castration-resistant prostate cancer (ENZA-p): an open-label, multicentre, randomised, phase 2 trial. Lancet Oncol. 2024; 25(5):563-571. doi: 10.1016/S1470-2045(24)00135-9

Hofman MS, Emmett L, Sandhu S, Iravani A, Buteau JP, Joshua AM, **Goh JC, Pattison DA**, Tan TH, Kirkwood ID, Ng S, **Francis RJ**, Gedye C, Rutherford NK, Weickhardt A, Scott AM, Lee ST, Kwan EM, Azad AA, Ramdave S, Redfern AD, Macdonald W, Guminski A, Hsiao E, Chua W, Lin P, Zhang AY, Stockler MR, Williams SG, Martin AJ, Davis ID Overall survival with [177Lu]Lu-PSMA-617 versus cabazitaxel in metastatic castration-resistant prostate cancer (TheraP): secondary outcomes of a randomised, open-label, phase 2 trial. Lancet Oncol. 2024; 25(1):99-107. doi: 10.1016/S1470-2045(23)00529-6

Buteau JP, Moon D, Fahey MT, **Roberts MJ**, Thompson J, Murphy DG, Papa N, Mitchell C, De Abreu Lourenco R, Dhillon HM, Kasivisvanathan V, **Francis RJ**, Stricker P, Agrawal S, O'Brien J, McVey A, Sharma G, Levy S, Ayati N, Nguyen A, Lee SF, **Pattison DA**, Sivaratnam D, Frydenberg M, Du Y, Titus J, Lee ST, Ischia J, Jack G, Hofman MS, Emmett L Clinical Trial Protocol for PRIMARY2: A Multicentre, Phase 3, Randomised Controlled Trial Investigating the Additive Diagnostic Value of [68Ga]Ga-PSMA-11 Positron Emission Tomography/Computed Tomography in Men with Negative or Equivocal Multiparametric Magnetic Resonance Imaging for the Diagnosis of Clinically Significant Prostate Cancer. Eur Urol Oncol. 2024; 7(3):544-552. doi: 10.1016/j.euo.2023.11.008

Tariq A, Pearce A, Rhee H, **Kyle S**, Raveenthiran S, Pelecanos A, **Gan CL, Goh JC**, Wong D, McBean R, Marsh P, **Goodman S**, Dunglison N, **Esler R, Navaratnam A**, Yaxley JW, **Thomas P, Pattison DA, Roberts MJ**. The Role of Prostate-specific Membrane Antigen Positron Emission Tomography/Computed Tomography in Primary Staging of Selected Renal Tumours: Initial Experience in a Multicentre Cohort. Eur Urol Focus. 2024; 10(5):770-778. doi: 10.1016/j.euf.2023.12.004

Book Chapters (RBWH staff or consumers in bold)

Alexander EK, Haymart MR, **Pattison DA**, Zeiger MA. (2024). Nontoxic Diffuse Goiter, Nodular Thyroid Disorders, and Thyroid Malignancies. In: Kopp P, editor. Williams Textbook of Endocrinology, 15th Edition, Elsevier; 2024

Chan DL, **Pattison DA**, Kong G. (2024). Role of Functional Imaging in NENs. In: Faggiano A, Ferone D, Singh S, editors. Neuroendocrine Neoplasia. Endocrinology. Springer; 2024.

Keynote or Plenary Lectures given in 2024

Date	Title
27 & 28/4/24	Australia & New Zealand Society of Nuclear Medicine Annual Scientific Meeting (Christchurch), Invited Speaker "Conduct of clinical trials - Multidisciplinary perspectives" & Session Chair - "Radiopharmaceutical Science Session (Inc Shimadzu Award)" Melissa Latter
27/4/24	Australia & New Zealand Society of Nuclear Medicine Annual Scientific Meeting (Christchurch), Invited Speaker & Session Chair "Oncology Read with the Experts" - David Pattison
23/7/24	Australia & New Zealand Urogenital & Prostate Annual Scientific Meeting (Gold Coast), Invited Speaker & Session Chair "Theranostics" - David Pattison
15/3/24	Prostate Therapy Imaging Centre of Excellence (ProSTIC) Preceptorship (Melbourne), Invited Speaker & Session Chair "A new era: PSMA radioligand therapy in 2024" - David Pattison
28/11/24	Brisbane Cancer Conference (Brisbane), Plenary Lecture "Brisbane Theranostics: the next generation" & Session Chair "Theranostics Workshop" - David Pattison
27/4/ 24& 28/4/24	Australia & New Zealand Society of Nuclear Medicine Annual Scientific Meeting (Christchurch), Session Chair: 'Plenary -Oncology'. Invited speaker: 'Oncology Read with the Experts' – Ros Francis
25/8/24	AANMS Theranostics Course, Session Chair: 'Thyroid Cancer'. Ros Francis

Genetic Health QLD

Research Highlights

Genetic Health Queensland (GHQ) saw some significant research achievements in 2024, highlights are provided below.

The overview paper for the Australian Genomics (AG) cardiovascular disorders flagship was accepted for publication in Genetics in Medicine Open. The flagship's secondary research findings paper is now completed and soon to be submitted for publication. A total of five papers are now published and another five are in preparation including functional genomics outcomes. Clinicians from GHQ and cardiology RVWH convened the 10th International cardiovascular genomics meeting in Brisbane.

The Australian Undiagnosed Disease Network (UDN-Aus) wrapped recruitment in December 2024. A total of 38 QLD families were accepted into the study, securing one of the top three positions for recruitment rate nationally. Analysis of sequencing data is ongoing.

In 2023, recruitment was completed for a collaboration between GHQ, MNH, Pathology Queensland and Illumina, undertaking an assessment of the impact of implementing whole genome sequencing-based testing in a statewide clinical service. This has been available to all clinically appropriate patients under 18 years seen by GHQ. Over 870 patients were recruited, and reporting was completed in 2024. A number of publications including a health technology assessment are expected outcomes.

The PRiMo trial (a randomised clinical trial using Polygenic Risk Modification to improve breast cancer prevention) began recruiting at GHQ in July 2022 and completed recruitment in December 2024. It has recruited 280 prospective and 19 retrospective women undergoing predictive testing for a familial Breast cancer gene mutation and has recently began the 'cross-over' phase of the trial.

ZERO2 has also commenced looking at genomic testing in childhood cancer and the GHQ team are involved in many aspects of this study.

A GHQ clinician continues as the state lead for PreGen, a national study evaluating impact of genomic testing in the prenatal setting. This project involves a number of the GHQ team.

As a state-wide service, GHQ has a focus on health equity for First Nations patients and is part of the Achieving Equity in Genomic Healthcare project as well as a clinician being a CI on the Pathways to benefit for Indigenous Australians in Genomic Medicine project. A clinician is also a CI on the preparing Australia for us of genomics in prevention of heart disease, focus on SE Asian Australians.

In 2024, GHQ were the winners of the RBWH staff excellence award for Improving First Nations health.

GHQ staff were authors on 18 publications this year, with additional articles under review. GHQ staff have presented at national and international conferences and to other health professional groups. Our research output and clinical expertise shared with the national and international healthcare community ensures best health practice for our growing population.

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
Genetic Health QLD service	Improving First Nations Health	RBWH Staff Excellence Awards 2024

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Greg Pratt: Prof Julie McGaughan	GHQ	Integrated Genetic Healthcare: Improving access to quality genetic services for Aboriginal and Torres Strait Islander Patients	GHFM	\$1,973.205.84	3 years, 2022 -

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Dr Sonia Shah, Prof Julie McGaughran	GHQ (UQ)	preparing Australia for use of genomics in prevention of heart disease: focus on south Asian Australians	GHFM	\$928,898	2022-2025
Prof Julie McGaughran	GHQ (UQ)	The TELO-SCOPE study: Attenuating Telomere Attrition with Danazol. Is there Scope to Dramatically Improve Health Outcomes for Adults and Children with Pulmonary Fibrosis	MRFF	\$1,828,446 (all sites)	2020-2025
Prof Alex Brown; Prof Julie McGaughran	GHQ	National Indigenous Genomics Network	GHFM	\$4,986,948.70	5 years
A/Prof Jodie Ingles; Prof Julie McGaughran	GHQ	The Elusive Hearts Study; Using genomics to diagnose and manage inherited cardiovascular diseases	GHFM	\$1, 499,286	3 years
Dr Emma Palmer; Prof Julie McGaughran	GHQ	GeneEqual: equitable and accessible genomics healthcare for people with intellectual disability	NHMRC	\$1, 556, 865	5 years
Prof Jozef Gecz; Prof Julie McGaughran	GHQ	PERSYST; pathogenic Evaluation of Recalcitrant Variants by Systematic Transactivation	MRFF	\$2, 996, 428	3 years
Dr Nathan Palpant; Prof Julie McGaughran	GHQ	TRIAGE; a disease agnostic computational and modelling platform to accelerate variant classification	GHRM	\$2, 997,498	3 years
Prof Julie McGaughran	GHQ	Genomic Health Futures Mission: The Australian Undiagnosed Diseases Network (UDN-Aus): An internationally networked national approach for transforming diagnosis for individuals living with rare diseases	MRFF	\$3 000 000 (all sites)	2021 – 2024 (extension)
Dr Chirag Patel	GHQ	A national large-scale automated reanalysis program to increase rare disease diagnosis	MRFF	\$3,000,000 (all sites)	Jun 2021-May 2024
Dr Chirag Patel	GHQ	The KidGen National Kidney Genomics Program – improving genomic outcomes for Australian families with genetic kidney disease	MRFF	\$3,000,000 (all sites)	Jun 2021-May 2025
Dr Chirag Patel	GHQ	The Australian Functional Genomics Network	MRFF	\$6,000,000 (all sites)	Jun 2021-May 2026
Dr Chris Richmond	GHQ	Genetics Immersion Program	ORI	\$16,0000	1 year, 2024

RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Prof Julie McGaughran	AGHA Flagship, Rachel Austin (Coord), Michael Quinn (PO),	Cardiovascular Genetic Disorders Flagship (AGHA)	n/a	(completed, 134 total)

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Prof Hamish Scott, Assoc Prof Chris Barnett	Prof Julie McGaughran, Dr Chirag Patel	Genomic autopsy of perinatal death	n/a	N/A
Prof Zornitza Stark	Dr Chirag Patel	A national large-scale automated reanalysis program to increase rare disease diagnosis	n/a	N/A
The Australian Functional Genomics Network	Dr Chirag Patel, Dr Di Milnes	The Australian Functional Genomics Network	n/a	N/A
KidGen	Dr Chirag Patel, Caitlin O'Connor (GC)	The KidGen National Kidney Genomics Program – improving genomic outcomes for Australian families with genetic kidney disease	n/a	N/A
kConFab (Lead by Stephen Fox)	Julie McGaughran	The Kathleen Cunningham National Research Consortium For Research on Familial Breast Cancer	n/a	Recruitment completed
QIMR-Berghofer (Lead by Barbara Leggett)	Helen Mar Fan	Identification of the Gene Causing Hereditary Flat Adenoma Syndrome (RBWH Research Foundation grant)	n/a	N/A
Prof Finlay Macrae (lead)	Dr Helen Marfan (PI), Rachel Austin (CRA)	A randomised double-blind dose noninferiority, Trial of aspirin in Lynch syndrome. CaPP3	n/a	Recruitment completed
Prof Melissa Southey	Dr Helen Marfan (PI), Rachel Austin (CRA), Rozanna Alli (CG)	Breast Cancer Refined Analysis of Sequence Tests: Risk and Penetrance (BRASTRAP)	n/a	Recruitment completed
Prof Martin Delatycki, Prof Edwin Kirk, Prof Nigel Laing	Prof Julie McGaughran (site PI)	Genomic Health Futures Mission: McKenzie's Mission, Functional genomics		N/A
Prof John Christodoulou	Prof Julie McGaughran (site PI), Dr Chris Richmond (AI), Rachel Austin (GC)	Australian Undiagnosed Diseases Network (UDN-Aus)	Yes, via Consumer advisory group	~34
Dr Mark Appleyard	Dr Helen Marfan (GHQ contact) Kim Ryan (QLD Coordinator)	Pancreatic screening trial	n/a	~ 10 (now closed)
Prof Georgia Chenevix-Trench Prof Melissa Southey, Mary-Anne Young, Paul James	Simone McInerney (Project manager), Camron Ebzery (site PI), Melanie Boon (AI), Dr Helen Marfan (AI), Dr Rozanna Alli (AI), Rachel Austin (AI), Carol-Ann Verrenkamp (AI), Simon Troth (AI), Bree Ryan (AI/site PI), Jacintha Luermans (AI), Ciara Harrex (AI), Caitlin O'Connor (AI), Christina Wade (AI), Sarah Foster (AI)	The PRiMo trial	n/a	~299
Tony Roscioli (Chief Investigator) Alyssa Wilson (Program Manager)	Dr Di Milnes (PI)	PreGen Antenatal Genomics and Newborn Care Study (PreGen)	n/a	N/A
Paul Lacaze, Adam Brotchie, Jane Tiller	Dr Rachel Susman (SitePI), Rachel Austin (GC)	DNA Screen	n/a	~30

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Kathy Tucker, Mark Cowley, Paul Ekert	Rozanna Alli (CG), Carol-Ann Verrenkamp (GC), Sarah Foster (GC)	ZERO2	n/a	No recruitment at RBWH
Prof Sandra Cooper (Lead)	Chris Richmond (AI)	RNA for Rare Disease (RNA4RD)	n/a	15
Dr Karen Liddle (Chief investigator)	Chirag Patel (PI)	Precision diagnosis for children with hearing loss: optimising utilisation of imaging and genetic testing	n/a	n/a
Dr Emma Palmer	Prof Julie McGaughran (PI), Jonathan Rogers (AI), Carla Smerdon (AI)	GeneEqual: equitable and accessible genomics healthcare for people with intellectual disability	yes	TBC

Research Activity with a Specific Focus on Aboriginal and Torres Strait Islander Peoples

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Number of RBWH Patients Recruited
Prof Alex Brown	Prof Julie McGaughran	Pathways to benefit for Indigenous Australians in Genomic Medicine	NA

Research Publications

Authors

Investigator	ORCID ID	Investigator	ORCID ID
Julie McGaughran	https://orcid.org/0000-0002-0926-7858	Di Milnes	https://orcid.org/0000-0001-8779-5157
Camron Ebzery	https://orcid.org/0000-0003-3487-4542	Rachel Austin	https://orcid.org/0000-0001-5311-2768
Helen Mar Fan	https://orcid.org/0000-0002-0267-4047	Chirag Patel	https://orcid.org/0000-0002-6374-5224
Rachel Susman	https://orcid.org/0000-0002-3682-0620	Megan Higgins	https://orcid.org/0000-0002-9161-4475
Chris Richmond	https://orcid.org/0000-0002-9778-4344	Michael Quinn	https://orcid.org/0000-0002-4501-5746
Jonathan Rodgers	https://orcid.org/0000-0003-0760-8943		

Publications in 2024

Journal Articles (RBWH staff or consumers in bold)

Aimee Huynh, Peter Lewindon, Christopher Burgess, **Chris Richmond**, Peter McNaughton. Multidisciplinary model of care for genomic testing for very early onset inflammatory bowel disease (veo-ibd). Internal Medicine. 2024

Austin R, Brown JS, Casauria S, Madelli EO, Mattiske T, Boughtwood T, Metke A, Davis A, Horton AE, Winlaw D, Das D, Soka M, Giannoulatou E, Rath EM, Haan E, Blue GM, Vohra J, Atherton JJ, van Spaendonck-Zwarts K, Cox K, Burnett L, Wallis M, Haas M, **Quinn MCJ**, Pachter N, Poplawski NK, Stark Z, Bagnall RD, Weintraub RG, Pantaleo SJ, Lunke S, De Fazio P, Thompson T, James P, Chang Y, Fatkin D, Macciocca I, Ingles J, Dunwoodie SL, Semsarian C, **McGaughran J**; Australian Genomics Cardiovascular Disorders Flagship. A multitiered analysis platform for genome sequencing: Design and initial findings of the Australian Genomics Cardiovascular Disorders Flagship. Genet Med Open. 2024 Mar 25;2:101842. doi: 10.1016/j.gimo.2024.101842. PMID: 39669597; PMCID: PMC11613726

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Barlow-Stewart, Kristine & Courtney, Eliza & Cowley, Mark & Ebzery, Camron & Fuentes Bolanos, Noemi & Gifford, Andrew & Harden, Hazel & Josephi-Taylor, Sarah & Kotecha, Rishi & Mateos, Marion & Manzur, Mitali & Mayoh, Chelsea & Milnes, Dianne & Nielsen, Jane & O'Connor, Matthew & Padhye, Bhavna & Pitman, Catherine & Pitman, Elizabeth & Pinese, Mark & Johnston, Carolyn. (2024). Policy and process for returning raw genomic data to parents and young adult participants in a pediatric cancer precision medicine trial.. 10.21203/rs.3.rs-4356870/v1

Basnayake Ralalage P, Mitchell T, Zammit C, Baynam G, Kowal E, Masey L, **McGaughran J**, Boughtwood T, Jenkins M, Pratt G, Ferdinand A. "Equity" in genomic health policies: a review of policies in the international arena. *Front Public Health*. 2024 Dec 20;12:1464701. doi: 10.3389/fpubh.2024.1464701. PMID: 39758206; PMCID: PMC11695411

Best S, Fehlberg Z, Richards C, **Quinn MCJ**, Lunke S, Spurdle AB, Kassahn KS, **Patel C**, Vears DF, Goranitis I, Lynch F, Robertson A, Tudini E, Christodoulou J, Scott H, **McGaughran J**, Stark Z. Reanalysis of genomic data in rare disease: current practice and attitudes among Australian clinical and laboratory genetics services. *Eur J Hum Genet*. 2024 Nov;32(11):1428-1435. doi: 10.1038/s41431-024-01633-8. Epub 2024 May 25. PMID: 38796577; PMCID: PMC11576731

Casauria, S., Collins, F., White, S. M., Konings, P., Wallis, M., Pachter, N., **McGaughran, J.**, Barnett, C., & Best, S. (2024). Assessing the unmet needs of genomic testing in Australia: a geospatial exploration. *European Journal of Human Genetics*. Advance online publication. <https://doi.org/10.1038/s41431-024-01746-0>

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Fuentes-Bolanos N; Courtney E; Mayoh C; Warby M; Lau L; Wong-Erasmus M; Khuong-Quang D-A; Barahona P; Padhye B; El-Kamand S; Nunag S; Ajuyah P; Sherstyuk A; Altekoeester A-K; Sullivan A; Poplawski N; Kiraly-Borri C; O'Sullivan S; Marfan H; Alli R; Curnow L; Bhatia K; Anazodo A; Trahair T; Mateos M; Hansford J; Dholaria H; Josephi-Taylor S; Moore A; Nicholls W; Gottardo N; Downie P; Khaw S-L; Tapp H; McCowage G; Dalla-Pozza L; Alvaro F; Wood P; Tyrrell V; Haber M; Cowley M; Ekert P; Marshall G; Kirk J; Tucker K; Pinese M; Ziegler D, 2024, Integrated germline and somatic molecular profiling to detect cancer predisposition has a high clinical impact in poor-prognosis paediatric cancer, <http://dx.doi.org/10.1101/2024.08.08.24311493>

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Keynote or Plenary Lectures given in 2024

Date	Title
22/02/2024	Polycystic Kidney Disease - Genetics and your family. Australian Polycystic Kidney Disease patient webinar. Chirag Patel, Caitlin O'Connor
20/04/2024	Genetic update aortopathies. Marfan and Aortopathy conference. Megan Higgins
8-9/May/2024	To return or not return, that is the question: development of the ZERO2 clinical reporting pipeline for germline whole genome sequencing in children, adolescents, and young adults diagnosed with cancer. Zero Childhood Cancer National Symposium, Sydney. Di Milnes
22/08/2024	Genetic updates for neurodevelopmental disorders. Australian Society of Developmental Paediatricians (ASDP), Gold Coast. Chirag Patel
31/08/2024	Medicare rebated genetic testing: practical aspects of requesting and interpreting results. KidGen symposium, Adelaide. Chirag Patel
20/09/2024	Decision aids for Nephrologists: Implementing genetic testing in renal medicine. Clinical Skills and Development Service 20-year symposium, Brisbane. Chirag Patel

Pharmacy

Research Highlights!

RBWH pharmacy department has had another productive year in terms of its research output across all levels of staff. From the 30 final year Quality Use of Medicine students, four weeks placements from UQ and QUT undertaking an array of audits and drug evaluations and smaller observational or retrospective chart reviews. All QUM projects are driven by a request for a student by in house pharmacists who have to provide research questions, aims, objectives and methods and also describe how the project aligns with MN and RBWH values.

Foundation resident trainees all undertake a project during their two years and an example of one that involved a great collaboration with a junior medical officer was the MERMAID study that evaluated the medication related MERTS at RBWH and as well as being presented at hospital, HHS and Statewide meetings is being submitted for publication and a proposal for follow on study supported by a Foundation Scholarship.

At an advanced level three of its staff Carla Scuderi, Paul Firman and Lia Paradissis have all been awarded their PhD through University of Queensland in areas of kidney transplant medication management; pharmacist driven therapeutic drug monitoring and assessment of outcomes in patients post Acute Myocardial Infarction (MI).

As a positive linkage of research as the department begins to wrap one MRFF project between pharmacy, IMS and Metro North PHN (ASPIRE) RBWH pharmacy in partnership with cardiology will be one of 3 Queensland research sites for a \$3M MRRF funded RECARD project to optimise and evaluate impact of enhanced medication transition of care in patients post MI

As a forum to support research ideas from developing a question to post-doctoral projects, RBWH pharmacy continues to host monthly university and hospital research collaboratives with attendees from JCU and Cairns to Gold Coast and Griffith university.

At the peak Internationally recognised level to have Prof Jason Roberts leading UQ CCR as one of the world leading research practitioners is phenomenal with the support through mentorship and supervision for many RBWH pharmacy and medical and nursing staff – we are very lucky.

Finally, it is a reflection of the value that University of Queensland see in their supporting research at RBWH by agreeing to establish the Directors of Pharmacy position as a Conjoint Assoc or Full Professor with associated KPIs for research and supporting teaching.

Successful Research Higher Degree candidates in 2024

Name	Title	Month Competed	Affiliated University	Summary
Dr Carla Scuderi (PhD)	Improving patient centred outcomes in kidney transplant recipients	August 2024	University of Queensland	Patient Centred outcomes in kidney transplant recipients
Dr Paul Firman (PhD)	A pharmacist managed therapeutic drug monitoring program	April 2024	University of Queensland	Increased scope of pharmacists to manage therapeutic drug monitoring
Dr Chariclia Paradissis (PhD)	Medication harm in patients after Acute Myocardial infarction	April 2024	University of Queensland	

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
Abby Yu	Best Poster Presentation	The 2024 Perioperative Medicine Special Interest Group in collaboration with Summit III and the PeriOperative Quality Initiative (POQI) meeting

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Nazanin Falconer, Neil Cottrell, Ian Coombes , Shelley Wilkinson, Kelvin Robertson, William Wang, Jared Miles, John Atherton , Centaine Snoswell. Vivian Bryce, Sue Carson, Andrew Jones, Laurence Marshman, Michael Barras, Keshia De Guzman	Pharmacy, Cardiology	REducing hospital re-admission for high-risk CARDiology patients (RECARD)	Department of Health and Aged Care, Medical Research Future Fund	\$2.5 million	5 years, 2023 - 2027
Tim Chen, Sarah Hilmer, Ian Coombes , Charles Denaro	Pharmacy + Internal medicine	ASPIRE <u>A</u> Systems <u>a</u> pproach to enhancing community-based medication <u>R</u> evue	MRFF	\$2.7 Million (RBWH + MN PHN is 1 of 4 sites)	5 years
Nazanin Falconer, Neil Cottrell, Ian Coombes , Shelley Wilkinson, Kelvin Robertson, William Wang, Jared Miles, John Atherton , Centaine Snoswell. Vivian Bryce, Sue Carson, Andrew Jones, Laurence Marshman, Michael Barras, Keshia De Guzman	Pharmacy, Cardiology	REducing hospital re-admission for high-risk CARDiology patients (RECARD)	Department of Health and Aged Care, Medical Research Future Fund	\$2.5 million	5 years, 2023 - 2027
Tim Chen, Sarah Hilmer, Ian Coombes , Charles Denaro	Pharmacy + Internal medicine	ASPIRE <u>A</u> Systems <u>a</u> pproach to enhancing community-based medication <u>R</u> evue	MRFF	\$2.7 Million (RBWH + MN PHN is 1 of 4 sites)	5 years
Roberts JA.	ICU	PERSONA: PERSONalised Anti-infective treatment solutions: all patients, all ages, all countries.	University of Queensland Strategic Initiatives Fund	\$780,000.	2021-2024
Roberts JA	ICU	Redefining Antimicrobial Use To Reduce Resistance And Prolong Their Clinical Utility	Queensland Advancing Clinical Research Fellowship, Queensland Health	\$499,950	2020-2024
ROBERTS, Jason A; Slavin, M.; *PATERSON, David; COMANS, Tracy A; LIPMAN, Jeffrey; Landersdorfer, C.; Joynt, G.; Bellomo, R. & others	ICU	Centre of Research Excellence - REduce the burden of antimicrobial reSistance through oPtimal, persONalised Dosing (RESPOND)	NHMRC Centres of Research Excellence	\$3,000,000	5 years, 2021 - 2025
Shweta Painumpra	Pharmacy		Metro North CAHRLI Research Write Up Grant	\$3000	1 month 2024
Amelia Anderson	Pharmacy	MERRMAID: Medical Emergency Response Related to MedicAtion InciDents	Metro North CAHRLI Research Write Up Grant	\$3000	1 month 2024

RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Abby Yu	Karen Whitfield, Andrew Hale, Michael D'Emden, Gemma Woodruff, Margaret Whillier, Matthew Seymour	Assessing the impact of preoperative diabetes optimisation on surgical outcomes		90
Naythen Hoang	Kelly Gadd, Briana Morgan	Multi-drop eye drop bottles – can it be successfully implemented to save QLD public health drug costs and waste?		0
Negin Nasseh	Jason Roberts, Jayesh Dhanani , Andrew Hale, Jessica Schults	Designing and implementing a nurse-led electronic medical record (EMR) integrated heparinisation protocol using optimal targets (anti Xa vs APTT)		0
Katharine Dekker	Kate Murphy , Eloise Glover, Priyanka Dhillon	Qualitative review of glucocorticoid stress dosing in the perioperative setting at the Royal Brisbane and Women's Hospital		140
Midori Nakagaki,	Jessica McIlwain , Fang Min Foo	Initial dose of Ciclosporin A in obese patients undergoing haematopoietic stem cell transplantation: Safety of actual weight based dosing		Publication pending
Shannon Pallett Midori Nakagaki	Elango Pillai Pharmacy student	Vancomycin therapeutic drug monitoring and acute kidney injury in haematology and bone marrow transplant patients		Final report pending
Shweta Painumpra	John Coutsouvelis, Midori Nakagaki	Risk factor Assessment and Pro-active Patient and multidisciplinary collaboration for appOpRiaTe escalation of antiemetics in Chemotherapy-Induced Nausea and Vomiting (RAPPORT-CINV Study)		24
Adrienne Kostellar	Ian Coombes , Andrew Hale, Michael Barras, Carla Scuderi , Nazanin Falconer	Characteristics of readmitted patients reviewed by a high-risk discharge pharmacist (MPhil)		121
Nic Anning	Christine Staatz, George Hopkins, Peter Donovan, Karen Whitfield	Role of the Pharmacist in the Care of the Bariatric Surgery Patient (PhD)		On hold
Paul Firman	K Whitfield, K Tan, A Clavarino	Therapeutic Drug Monitoring optimisation (PhD)		0
Liz Doran	K Whitfield, L Cullen, I Coombes	Risk assessment tool of poisoned patients by non-expert clinicians in Emergency Department (PhD)		On hold
Carla Scuderi	Suzanne Parker, Margaret Jacks, George John, Brett McWhinney, Jacobus Ungerer, Andrew Mallett, Helen Healy, Jason Roberts, Christine Staatz	Can microsampling methods replace venepuncture for simultaneous therapeutic drug monitoring of tacrolimus, mycophenolic acid, and prednisolone concentrations in adult kidney transplant patients? (PhD)		40
Kylie Mueller	K Whitfield, I Coombes	Early patient follow-up after discharge by pharmacy (cardiology)		22
Ian Coombes	Nazanin Falconer, Neil Cottrell, Ian Coombes , Shelley Wilkinson, Kelvin Robertson, William Wang, Jared Miles, John Atherton , Centaine Snoswell, Vivian Bryce, Sue Carson, Andrew Jones, Laurence Marshman, Michael Barras, Keshia De Guzman	REducing hospital re-admission for high-risk CARDiology patients (RECARD)	3	To start oct 25

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Samuel Ford	I Coombes , A La Caze, J Williams	Optimising hyperkalaemia management in the Emergency Department (ED)		Pilot completed
Naythen Hoang	A Kothari, T Sullivan, M McCartney	Evaluating the use of Tocilizumab for the treatment of Thyroid Eye Disease		
Naythen Hoang	S Kitson, N Toalster	Herpes simplex keratitis – is dosing, and duration that simple?		

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Katharine Smith	Edoardo Ostinelli, Roger Ede, Lisa Allard , Michaela Thomson, Kiran Hewitt, Petra Brown, Caroline Zangani, Matthew Jenkins, Verena Hinze, George Ma, Prajnesh Pothulu, Catherine Henshall, Gin Malhi, Susanna Every-Palmer, Andrea Capriani	Assessing the Impact of Evidence-Based Mental Health Guidance During the COVID-19 Pandemic: Systematic Review and Qualitative Evaluation		9
Karen Davies	Peter Donovan, Ian Coombes, Samantha Keogh, Jed Duff , Karen Hay	Implementation of the Medication Administration Evaluation and Feedback Tool (MAEFT): Knowledge Translation – Internal Medicine Service (IMS)		
Christy Noble	Ian Coombes , Elizabeth Molloy	The nature and effect of pharmacists' engagement with feedback in interdisciplinary hospital settings		
Tim Chen	Ian Coombes, Charles Denaro , Karen Leutcsch, Carl Schnieder, Sasha bennet, Daniele Gnidic, Sarah Hilmer	The investigation of impact of post discharge home medication review on unplanned hospital re-admission (ASPIRE)	3	260
Jason Roberts	Julian Lindsay, Johannes Alffenaar, Tony Lai, Suzanne Parker, Monica Slavin, Catherine Liu, Mark Chatfield, Adam Irwin, Michelle Cunich, Natasha Roberts, Jacinta Smith, Phillip Selby, Midori Nakagaki, Amy Legg, Glen Kennedy , Jacobus Ungerer	PhaRmAcogenoMics for better treatment of fungAl infections In Cancer (PRAGMATIC trial)		Not yet recruiting
Shirlony Morgan	Anjela Pham-Nguyen , George Ma, Minnie Park , Caroline Chui, Korinne Northwood	State-wide Audit of Psychotropic Prescribing (SWAPP) – A cross-sectional pilot study of antipsychotic use among public mental health services in Queensland		20
Angela Faint	Anjela Pham-Nguyen , Zaw Thet, Nicolas Smoll, Antony Attokaran	Impact of the Initiation of Therapeutic Anticoagulation Pathway (ITAP) on Medication Safety		N/A

Research Publications

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Journal Articles (RBWH staff or consumers in bold)

Mirkov, S., **Scuderi, C.**, Lloyd, J., Coutsouvelis, J., O'Connor, S., Potts, S., Newman, S. and Roberts, J. (2024), Estimation of kidney function for medication dosing in adult patients with chronic kidney disease: a practice update. *J Pharm Pract Res*, 54: 94-106. <https://doi.org/10.1002/jppr.1884>

Cashmore B, Tunnicliffe DJ, Palmer S, **Scuderi C**, et al. Australian and New Zealand Living Guideline cholesterol-lowering therapy for people with chronic kidney disease (CARI Guidelines): Reducing the evidence-practice gap. *Nephrology*. 2024; 29(8): 495-509. doi:10.1111/nep.14295

Paradissis, C.; Cottrell, N.; **Coombes, I.D.**; Wang, W.Y.S.; Barras, M.A. Unplanned Rehospitalisation due to Medication Harm following an Acute Myocardial Infarction. *Cardiology (Switzerland)*. 2024 | DOI: 10.1159/000538773.

Keynote or Plenary Lectures given in 2024

Date	Title
April 2024	Roberts JA, "Antibiotic PK/PD in ICU". II Course: PK/PD Applications in Antimicrobial Therapy. Barcelona, Spain
April 2024	Roberts JA, "Antimicrobial dose optimization in patients with severe infections". Interdisciplinary Symposium: modern understanding and approach to severe infections, Aarhus, Denmark
April 2024	Roberts JA, "The foundation and progression of BLING: Continuous infusions of beta-lactams in sepsis". Interdisciplinary Symposium: modern understanding and approach to severe infections, Aarhus Denmark
April 2024	Roberts JA, "Emerging role of dosing software for managing critically ill patients". Australian New Zealand Intensive Care Society Annual Scientific Meeting, Brisbane.
July 2024	Coombes ID, The role of pharmacist in addressing Global Challenge of medicines Without Harm. The International Research Symposium of the Faculty of Allied Health Sciences, University of Ruhuna (iRuFARS-2024), Sri Lanka
August 2024	Coombes I., "Experiences from Australia; Challenges in Medication Without Harm Safety, Quality and Rational Use. ClinPharm 2024. Colombo, Sri Lanka.
October 2024	Roberts JA, "My obese septic patient does not respond to anti-microbial therapy: What should be considered?" Debate. ESICM LIVES 2024, Barcelona, Spain
November 2024	Scuderi C, "To pee or not to pee what is the equation" SHPA MM2024



Tess Cramond Pain and Research Centre

Research Highlights

The Tess Cramond Pain and Research Centre has developed research collaborations with a diverse range of basic through to applied research with a wide range of RBWH and external research centres. RBWH based collaborations include delivery of analgesia in burns procedures via nebulisation (Department of Intensive Care, RBWH Burns Research Project Grant); virtual reality for the rehabilitation of low back pain (Physiotherapy Department); and iron infusions for management of chronic pain (Department of Anaesthesia).

External collaborations include basic science to track the expression of small nerve fibres in the epidermis after whiplash injury from motor vehicle accident (UQ RECOVER Injury Research Centre, RBWH Foundation Project Grant); to emerging clinical practice with online interventions to support understanding and self management of opioids, and online social and gamification of platforms for paced physical activity for pain management (UQ RECOVER Injury Research Centre); statewide implementation of a virtual reality pain management program (Qld Office of Health Innovation). These innovations dovetail with expert multidisciplinary care and facilitation of patient self-management, with the aim of deeper understanding and lasting impact for patient's lives, reducing the low-value (and sometimes high cost) care that can otherwise occur with persistent pain.

Our projects reach beyond the Herston precinct, to primary health collaborations with persistent pain services in Caboolture with the local Aboriginal Community Controlled Health Organisation (Institute for Urban Indigenous Health) and with a Primary Health Network initiative (PainWise). These projects, funded by the Connected Community Pathways initiative have service evaluation research embedded in their model of care, and spearhead the goal of knowledge transfer from tertiary services to deliver pain services in the community, cheaper, more culturally safe and accessible for the clients.

Our participation in external collaborations extends to an international NHMRC-NIHR trial that includes an arm with best conservative care for back pain associated with lumbar disc degeneration (FORENSIC trial with the UQ - STARS Education and Research Alliance). The Tess Cramond Pain and Research Centre has contributed through the planning and approvals achieved in 2024, for recruitment to commence in 2025.

Lastly, through 2024 the Tess Cramond Pain and Research Centre were proud to have our excellence in research and clinical practice recognised through awards at the Australian Pain Society Annual Scientific Meeting (best poster), the Herston Health Precinct Symposium (Prof Geoffrey Lipman award for Best Translational Research), and the Metro North Staff Excellence award for Integrated Care. The recognition adds to the impetus, for the Tess Cramond Pain and Research Centre to progress with these innovative models that disseminate skills and understanding, to empower community clinicians and clients. At each of the presentations, valuable conversations were seeded with RBWH, MNH and national services, generating ideas for similar models of care to link tertiary skills and primary care, to improve the standard and scale of health care delivery.

Research Awards and Achievements

Recipient (RBWH staff in bold)	Award	Event
Morgan Brodhurst-Hill, Caroline Zanussi , Jenny Setchell, Jenny Strong , Carmel Nelson, Andrew Claus , Alison Nelson, Jane Harpham , Paul Gray	Professor Jeffrey Lipman AM Best Translational Research Award Podium presentation: What does propa collaborative design of a persistent pain service for Mob really look like?	Herston Health Precinct Symposium Sept, 2024
Caroline Zanussi , Jenny Setchell, Andrew Claus , Carmel Nelson, Jenny Strong , Jane Harpham , Alana Parviour, Morgan Brodhurst-Hill, Alison Nelson, Paul Gray	Best poster award. Poster: What does propa co-design really look like? A collaboration between an Aboriginal Community Controlled Organisation (IUIH) and Queensland Health, to create a persistent pain service for Mob.	Australian Pain Society, 44 th Annual Scientific Meeting, April 2024
Paul Gray	Excellence in integrated care. The persistent pain service: A caring pathway for Mob and SPAN-PHN programs. Audit data were a key element of the submission demonstrating impact of the programs	Metro North Staff Excellence Award 2024

Research Grants

Investigator Names (RBWH staff in bold)	RBWH Departments / Research Groups	Research Project Title	Granting Body	Total Awarded (whole all years)	Length of Awards in years and years active
Scott Farrell, Paul Gray , Michele Sterling, Peter Cabot, Andrew Claus , Annina Schmid, Genesta Nicolson , Kevin Chu ,	Tess Cramond Pain and Research Centre Emergency and Trauma Centre	Development of small nerve fibre pathology in chronic whiplash associated disorder	RBWH Foundation	\$64,840	3 years, 2022-2024
Jayesh Dhanani , Michael Reade , Carl Lisec , Paul Gray , Jason Roberts , Andrew Claus	Department of Intensive Care, Tess Cramond Pain and Research Centre	Innovation in burns management: Does nebulised dexmedetomidine reduce or eliminate the requirement for conventional sedation and analgesia (intravenous ketamin and midazolam) for procedural pain management in burns patients? A pilot phase III randomised controlled cross-over trial	RBWH Burns Research Project Grant	\$59,000	3 years, 2022-2024
Gunjeet Minhas , Paul Gray , Andrew Claus , André Van Zundert , Angela Tognolini , Scott Farrell, Emma Ballard, Maree Smith	Tess Cramond Pain and Research Centre	A randomised trial of lidocaine for post-traumatic neuropathic pain: Does dose or patient profile modify the outcome?	Australian and New Zealand College of Anaesthetists, Novice Researcher Grant	\$20,000	3 years, 2022-2024
Nicole Andrews , Paul Gray , Joseph Parmenter , David Ireland, Trevor Russell, Jenny Strong , Adam La Caze, Jason Ferris	RBWH Occupational Therapy, Tess Cramond Pain and Research Centre	A mHealth assisted allied health intervention to support people with chronic pain during opioid tapering: a pilot randomised controlled trial	RBWH + RBWH Foundation, Study Education and Research Trust Account	\$75,000	1 year, 2023-2024
Kerstin Wyssusek , Paul Gray , Christine Woods , Anita Pelecanos, Julie Lee , Michelle Spanevello	Department of Anaesthesia and Perioperative Medicine, Tess Cramond Pain and Research Centre	Intravenous iron infusion therapy in chronic pain patients with iron deficiency: VITAL, a randomised controlled trial	Pharmacosmos	\$79,860	4 years, 2021-2024
Jane Nikles Nicholas Aitcheson, Rebecca Madden, Stefan Konigorski, Nancy Sturman, Michele Sterling, Peter Worthy, Suzanne McDonald, Nicole Andrews , Libby Lake, Christos Papadopoulos, Kevin Conway	Occupational Therapy, The Tess Cramond Pain and Research Centre	Personalising non-pharmacological management of chronic non-cancer pain	SERTA, Metro South Health Research Support Scheme	\$125 000	1 year, 2024-2025
Peter Window , Trevor Russell, Daniel Harvie, Michel Coppieters, Nicole Andrews , Jean Spinks, Natalie Barthel	Physiotherapy and the Tess Cramond Pain and Research Centre	Cognitive behavioural therapy-informed virtual reality in persistent low back pain: a feasibility randomised controlled trial	RBWH Foundation Grant	\$49,961.28	1 year, 2024-2025

RBWH Department / Research Group Led Research Activity

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Nicole Andrews	Paul Gray, Joseph Parmenter , David Ireland, Trevor Russell, Jenny Strong , Adam La Caze, Jason Ferris	Investigating the effect of a mHealth assisted allied health opioid tapering intervention on daily opioid use for chronic pain: the MOTION-Pilot randomised controlled	2	5
Nicole Andrews	Andrew Claus (TCPRC), Riley O'Donohue (Psychology), Megan, Murdoch (Physiotherapist) , Hang Ding (UQ), Atiyeh Vaezipour (UQ), Paul Gray (TCPRC) , Trevor Russell (UQ)	Onsite hospital-based pain management programs: understanding and improving uptake and adherence rates	3	
Nicole Andrews	Olivia Zheng (Trauma Service), Jodie Ross (Trauma Service) , Venerina Johnston (UQ), Elise Gane (UQ), Esther Smits (UQ), Charlotte Brakenridge (UQ), Paul Gray (Professor Tess Cramond Multidisciplinary Pain Centre), Michael Rudd (Trauma Service)	An investigation of the prevalence, impact, and management of chronic pain post trauma at a tertiary public hospital	2	
Nicole Andrews	Fatima Amershi (OT), Riley O'Donohue (Psychology), Andrew Claus (TCPRC), Paul Gray (TCPRC) , Trevor Russell (UQ), Joshua Simmich (UQ), Anton Pak (UQ)	Enhancing the management of chronic pain: a new eHealth model to extend onsite care and benefits back to the community	2	
Nicole Andrews	David Ireland (CSIRO), Marlien Varnfield (CSIRO), Cate Sinclair (Pain Specialists Australia), Michael Deen (MSHHS), Kathleen Cooke (St Vincents), Helen Rowe (The Therapy Space), Atiyeh Vaezipour (UQ), Esther Smits (UQ)	Is app gamification effective in increasing consumer engagement and satisfaction? An evaluation of gamification for a chronic pain monitoring app	2	
Nicole Andrews	Caitlin Hamilton (UQ), Liz Lush (Pelvic Pain, Foundation of Australia), Jenny Strong (UQ), Peter Irving (UQ), Michelle Oliver (OT Australia), Sophie Doyle (UQ)	Barriers to Occupational Therapists Specialising in the Psychosocial Management of Persistent Pain within the Private Sector		
Nicole Andrews	David Ireland (CSIRO), Andrew Claus (TCPRC) , Elizabeth Hay (UQ), Lyza Burvill (UQ), Jenny Strong (UQ), Daria Westerman (Queensland Children's Hospital), Mikaela Schlumpf (Queensland Children's Hospital), Tania Rose (UQ), Pranieve Vijayakumar (CSIRO)	Acceptability of a pain history and pain education chatbot across different age groups: designing and pilot testing the Dolores mobile app	4	
Kerstin Wyssusek	Paul Gray, Christine Woods, Julie Lee, Anita Pelecanos, Greg Anderson	VITAL: The efficacy of IntraVenous Iron Therapy in persistent pAin patients with iron deficiency: a randomised controlled trial	3	16

Collaborative Research Activity Involving RBWH Department / Research Group

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Consumer involvement	Number of RBWH Patients Recruited
Scott Farrell	Paul Gray , Michele Sterling, Peter Cabot, Andrew Claus , Annina Schmid, Genesta Nicolson , Kevin Chu	Development of small nerve fibre pathology in chronic whiplash associated disorder	0	30
Genevieve Donohue (UQ)	Nicole Andrews , Pamela Meredith (SCU), Jenny Strong (UQ), Laura Page (CQU)	The association between spousal reactions to chronic pain and pain-related patient outcomes: a systematic review		N/A
Genevieve Donohue (UQ)	Nicole Andrews , Pamela Meredith (SCU), Jenny Strong (UQ), Miriam Dillon (PT)	Nicole Andrews , Pamela Meredith (SCU), Jenny Strong (UQ), Miriam Dillon (PT)		N/A
Hang Ding (UQ)	Trevor Russell (UQ), Joshua Simmich (UQ), Nicole Andrews , AtiyehVaezipour (UQ)	Evaluation framework for using conversational agents in healthcare		N/A
Charlotte Brakenridge (UQ)	Venerina Johnston (UQ), Michelle Smith (UQ), Sjaan Gomersall (UQ), Nicole Andrews , Trevor Russell (UQ)	Identifying optimal sit-stand recommendations for the workforce		N/A
Joshua Simmich (UQ)	Megan Ross (UQ), Nicole Andrews , Atiyeh Vaezipour (UQ), Trevor Russell (UQ)	A systematic review of pain monitoring mHealth apps		N/A
Joshua Simmich (UQ)	Nicole Andrews , Andrew Claus (TCPRC), Megan Murdoch (PT), Trevor Russell (UQ)	Smartphone-based 6-Minute Walk Test in chronic pain: a validation study		0

Research Activity with a Specific Focus on Aboriginal and Torres Strait Islander Peoples

Lead Investigator Name (RBWH staff and consumers in bold)	Other Study Investigators (RBWH staff and consumers in bold)	Research Project Title	Number of RBWH Patients Recruited
Paul Gray	Carmel Nelson, Jenny Setchell, Andrew Claus , Morgan Brodhurst-Hill, Jenny Strong , Alison Nelson, Sarah Duke, Maddison Gear, Jane Harpham , Caroline Zanussi	Quality improvement audit evaluating the Tess Cramond Pain and Research Centre's caring pathway for Mob	40

Research Publications

Authors

Investigator	ORCID ID
Assoc Prof Paul Gray	https://orcid.org/0000-0002-1369-1483
Dr Nicole Andrews	https://orcid.org/0000-0002-7739-1738
Dr Andrew Claus	https://orcid.org/0000-0003-4030-9697
Em Prof Jenny Strong	https://orcid.org/0000-0002-9367-8755

Publications in 2024

Journal Articles (RBWH staff or consumers in bold)

Brakenridge CL, Smits EJ, Gane EM, **Andrews NE**, Williams G, Johnston V. Effectiveness of Interventions on Work Outcomes After Road Traffic Crash-Related Musculoskeletal Injuries: A Systematic Review and Meta-analysis. *J Occup Rehabil*. 2025 Mar;35(1):30-47. PubMed PMID: 38578601. Pubmed Central PMCID: PMC11839784. Epub 20240405

Buin L, Joaquim R, **Strong J**, Robinson K. The Experience of Pregnancy-Related Lumbopelvic Pain: A Qualitative Evidence Synthesis. *Can J Occup Ther*. 2024 Mar;91(1):29-43. PubMed PMID: 37170547. Epub 20230511

Farrell SF, Armfield NR, Cabot PJ, Elphinston RA, **Gray P**, **Minhas G**, et al. C-Reactive Protein (CRP) is Associated With Chronic Pain Independently of Biopsychosocial Factors. *J Pain*. 2024 Feb;25(2):476-96. PubMed PMID: WOS:001170280200001. English

Ireland D, Vijayakumar P, **Andrews N**. Dolores: A Mobile Chatbot for People Living with Chronic Pain. *Stud Health Technol Inform*. 2024 Jan 25;310:564-8. PubMed PMID: 38269872

Labrom FR, Izatt MT, Askin GN, Labrom RD, **Claus AP**, Little JP. Segmental deformity markers offer novel indicators of deformity progression risk in deformity-matched adolescent idiopathic scoliosis patients. *Spine Deform*. 2024 Nov;12(6):1647-55. PubMed PMID: 39044108. Pubmed Central PMCID: PMC11499335. Epub 20240724

Ng PTT, Duncombe P, van den Hoorn W, **Claus A**, Izatt MT, Pivonka P, et al. Achieving maximal voluntary contraction of paraspinal muscles requires two tasks: Insight from an EMG study of females with and without adolescent idiopathic scoliosis. *J Biomech*. 2024 Aug;173:112251. PubMed PMID: 39094397. Epub 20240727

Ng PTT, Tucker K, Zahir SF, Izatt MT, Straker L, **Claus A**. Comparison of physiological and behavioral nutrition-related factors in people with and without adolescent idiopathic scoliosis, from cohort data at 8 to 20 years. *JBMR Plus*. 2024 Feb;8(3):ziad013. PubMed PMID: 38505221. Pubmed Central PMCID: PMC10945716. Epub 20240104

Simmich J, **Andrews NE**, **Claus A**, **Murdoch M**, Russell TG. Assessing a GPS-Based 6-Minute Walk Test for People With Persistent Pain: Validation Study. *JMIR Form Res*. 2024 Mar 18;8:e46820. PubMed PMID: 38498031. Pubmed Central PMCID: PMC10985605. Epub 20240318

Wyssusek KH, Woods CA, Minard ET, Lee J, Pelecanos A, **Gray P**. A cross-sectional study of the relationship between iron deficiency anaemia and chronic pain. *Anaesth Intensive Care*. 2024 Nov;52(6):369-76. PubMed PMID: 39233562. Epub 20240905

Ireland D, **Andrews N**, Bradford D. Tabula Rasa: A Case Study in Chronic Pain Management Using Individual-Centric AI. *Stud Health Technol Inform*. 2024 Sep 24;318:102-7. PubMed PMID: 39320189

Ireland D, **Andrews N**, Bradford D. Conversations in Content and Context: Can We Teach AI to Chat About Drawings? *Stud Health Technol Inform*. 2024 Sep 24;318:108-13. PubMed PMID: 39320190.

Keynote or Plenary Lectures given in 2024

Date	Title
May 3-7 2024	Dr Zoe Vella co-convened the Faculty of Medicine Symposium 3 rd May 2024, and the Pain Medicine component of the Australian and New Zealand College of Anaesthetists Symposium
Sept 22-27 2024	Assoc Prof Paul Gray and Dr Kym Boon delivered an invited workshop at the 45 th World Congress for the International Committee on Military Medicine, Brisbane
May 4, 2024	Assoc Prof Paul Gray delivered an invited speaker presentation on "Pain Management in Burns Mass Casualty Incident" at the Annual Scientific Meeting of the FPM and ANZCA, Brisbane
Oct 10 th , 2024	Dr Nicole Andrews delivered a keynote on "The digital transformation of a key self-management strategy for chronic pain." The RECOVER Conference 2024



Delivered by members of the Institute for Urban Indigenous Health and the Tess Cramond Pain and Research Centre.

From left to right: Lisa Mcilroy (IUIH), Jenaya Emzin (IUIH), **Suet Yi Yam (TCPRC)**, Kaydi Enoch (IUIH), Nungalka Davis-Angeles (IUIH), **Caroline Zanussi (TCPRC)**, Dr Jenny Setchell (IUIH), Morgan Brodhurst-Hill (IUIH).

Southeast Queensland First Nations Health Equity Conference, 90min workshop titled: *Moving beyond 'co-design' – what does propa collaboration look like between community and mainstream services?: A worked example of the Persistent Pain Service – A Caring Pathway for Mob.*



Tess Cramond Pain and Research Team photo 2025. Taken at the annual strategic planning day, with medical, nursing, psychology, physiotherapy, occupational therapy, pharmacy, clinical assistant and administrative team members.