

# CRITICAL CARE AND CLINICAL SUPPORT SERVICES

## Critical Care and Clinical Support Services

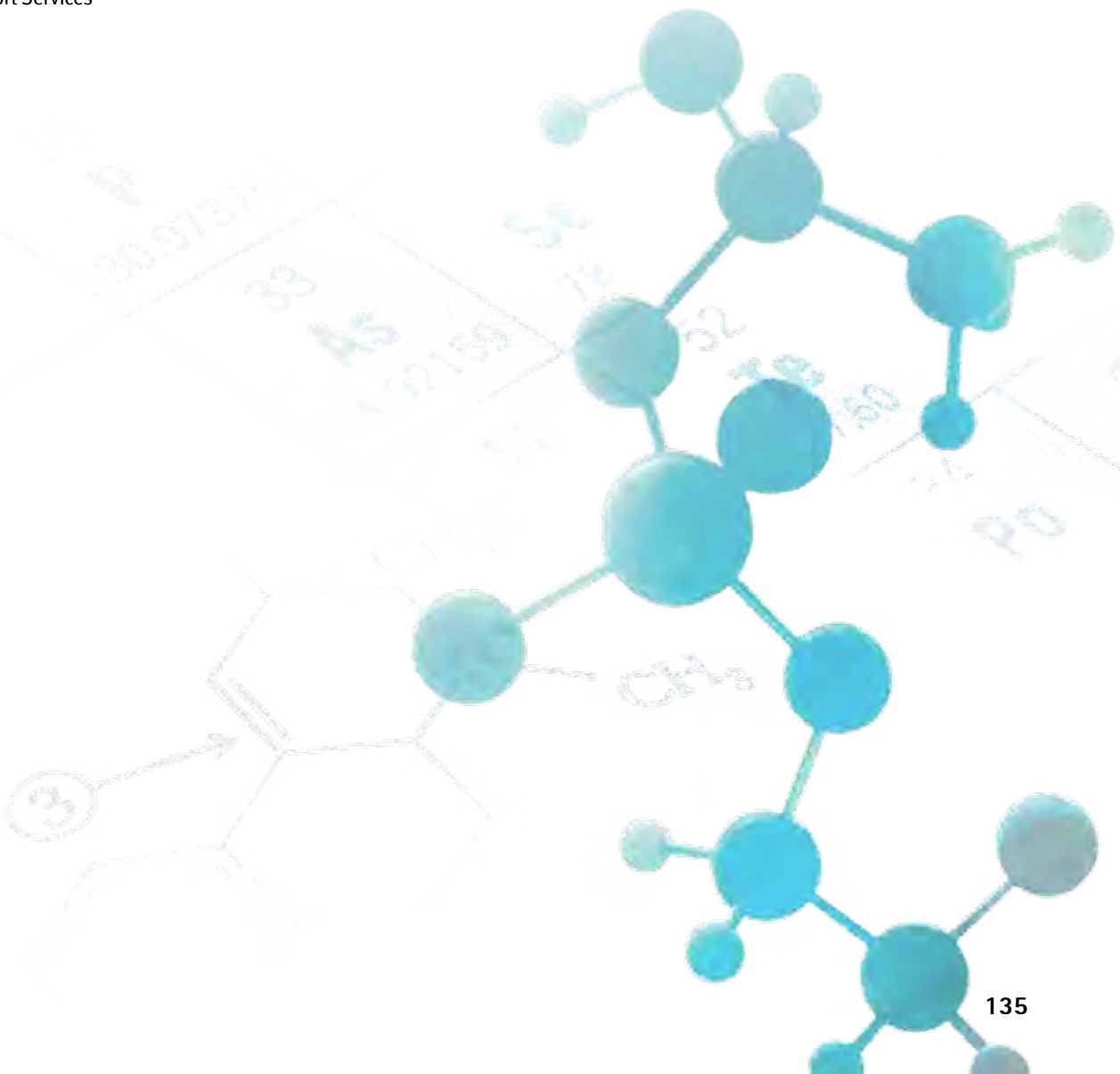


**Dr Mark Mattiussi**  
Executive Director  
Critical Care and  
Clinical Support Services

The RBWH Critical Care and Clinical Support Service team recognise the importance of research as a critical cornerstone to clinical excellence. The team embodies this principle with enthusiasm, a heartfelt passion and a sense of pride of place on the national and international research stage. The 2018 report demonstrates commitment from the entire team to advancing healthcare through research.

In 2018, as in previous years, our research team have been recognised for their work, by their peers and others within MNHHS, their partner organisation and by national expert panels and beyond. Our Critical Care and Clinical Support Services researchers hold pride of place amongst the world's most highly cited research and scientific thought leaders. Our researchers' work, trials and publications have, and continue to, influence the way clinical medicine is practiced nationally and across the world.

The Critical Care and Clinical Support Services team recognise that a focus on partnering and collaboration increases the capacity and capability for research and each and every service describes their partnerships within the 2018 report. Our team of clinicians and researchers are well published in their specialty areas in peer reviewed journals, text books and beyond. This report highlights their work and achievements over 2018. They, and I, are extremely proud of their achievements.



## Emergency and Trauma Centre

The Emergency and Trauma Centre's wide-ranging program of departmental and collaborative research activities continued throughout 2018. The year was notable for the development of new and exciting collaborative partnerships with external institutions that focus on novel research questions with potentially transformational outcomes.

We were very pleased to see substantial growth in emergency nurse-led research activities as well as research collaborations with pharmacy and allied health during the year. This was demonstrated by the development of several nurse-led projects and grant applications, good representation by nurses at local and national conferences, and the enrolment of two of our nurses in research higher degrees.

Congratulations go to Dr James Hughes, who completed his PhD on the treatment of pain in emergency departments, and to Dr Jaimi Greenslade for being awarded an Advance Queensland Fellowship. Congratulations also to Professor Louise Cullen, whose influential research into the use of biomarkers in the diagnosis of chest pain and her broader contributions to clinical research were recognised in the receipt of the Chief Executive's Award at the 2018 MNHHS Research Excellence Awards and a "Citation of the Branch" from AMA, Queensland.

### Supervised Post-Graduate Research Students

Name <i>(RBWH staff in bold)</i>	Current Studies <i>(e.g. PhD, Masters etc.)</i> University <i>(duration)</i>	Research Project Title	Supervisors <i>(RBWH staff in bold)</i>
<b>Julian Williams</b>	PhD, UQ (2008-2018)	Identifying risk factors for MRSA	<b>Jeffrey Lipman, Anthony Brown</b>
Wahid Allihaibi	PhD, QUT (2015-2018)	A New Approach to Optimise Hospital Emergency and Inpatient Operations	Michael Cholette, Azharul Karim, <b>John Burke</b>
Kazi Ahsan	PhD, QUT (2014-2018)	Lean integrated optimisation model of emergency department for improved patient flow	Azharul Karim, Gerard Fitzgerald, Michael Cholette, <b>John Burke</b> , Doug Morel
Michael Chen	MEpi, UQ (2016-18)	Outcomes of patients with abdominal pain in the emergency department	Melinda Protani (UQ), <b>Kevin Chu</b>
Ariel Ho	MPhil, UQ (2016-2018)	Examination of Troponin Testing during Implementation and Post- Implementation of Accelerated Chest Pain Assessment Strategies: A Marker of Translational Research Success	<b>Louise Cullen, Jaimi Greenslade</b>
Daniel Lancini	PhD, UQ (2016-2020)	Atrial fibrillation in hospitalised patients	<b>Louise Cullen</b> , Paul Martin
<b>Laura Foran</b>	MPhil, QUT (2017-2019)	Clinical presentation characteristics of Aboriginal and Torres Strait Islander patients presenting to an Emergency Department with suspected Acute Coronary Syndrome	<b>Louise Cullen</b>
Siegfried Perez	PhD, UQ (2016-2020)	Data Extraction from Electronic Health Records for a Chest Pain Clinical Data Registry	<b>Louise Cullen, Jaimi Greenslade</b>
Laura Scott	MPhil, UQ (2018-2020)	Long term outcomes for patients undergoing accelerated chest pain assessment strategies	<b>Louise Cullen, Jaimi Greenslade</b>
Min Yan Chen	MN, QUT (2016-2018)	Comparing time to first analgesic medication between cognitively impaired and non-cognitively impaired elderly patients with pain in the emergency department	<b>James Hughes</b>
<b>Elizabeth Doran</b>	MPhil, UQ (2018-2022)	ED pharmacists extended scope of practice	<b>Louise Cullen</b>
<b>Brandon Allwood</b>	MPhil, QUT (2018-2021)	Improving patient's pain through a standardised nurse-initiated medication regime	<b>Fiona Coyer, James Hughes</b>
<b>Samuel Brookfield</b>	PhD, UQ (2018-2021)	Critical Ethnography of Methamphetamine Recovery	Lisa Fitzgerald, Linda Selvey, Lisa Maher
<b>James Hughes</b>	PhD, QUT (2014-2018)	Person, environment, and health and illness factors influencing time to first analgesia and patient experience of pain management in the adult emergency department	Patsy Yates, Kimberley Alexander, Lyndall Spencer

## 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions

Name	Type of Fellowship	Research Program	University (years)
Venkat Acholi	Emergency Physiotherapist	Physiotherapy defined scope of practice (prescribing)	
Daniel Bodnar	Senior Lecturer	Faculty of Medicine	UQ (2012 – current)
Anthony Brown	Professor of Emergency Medicine	Faculty of Medicine, Discipline of Anaesthesiology and Critical Care	UQ (2009 – current)
	Adjunct Professor	School of Public Health and Social Work	QUT (2009 – current)
Nathan Brown	Honorary Senior Lecturer	Faculty of Medicine, Discipline of Anaesthesiology and Critical Care	UQ (2016 – current)
Julia Brownlie	Nurse Practitioner	Emergency nurse practitioner in early pregnancy	
John Burke	Adjunct Associate Professor	School of Public Health and Social Work	QUT (2016 – current)
Kevin Chu	Adjunct Associate Professor	Faculty of Medicine	UQ (2011 – current)
	Adjunct Associate Professor	School of Public Health and Social Work	QUT (2009 – current)
Louise Cullen	Adjunct Professor	Faculty of Health	QUT (2016 – current)
	Associate Professor	Faculty of Medicine	UQ (2015 – current)
Jaimi Greenslade	Adjunct Senior Lecturer	Faculty of Medicine	UQ (2011 – current)
	Adjunct Associate Professor	School of Public Health and Social Work	QUT (2012 – current)
Janelle Heine	Emergency Physiotherapist	Physiotherapy defined scope of practice (prescribing)	
James Hughes	Conjoint Senior Nursing Research Fellow	Faculty of Nursing	QUT (2017 – current)
Catherine Hurn	Senior Lecturer	Faculty of Medicine	UQ (2008 – current)
Trent Lipp	Senior Lecturer	Faculty of Medicine	UQ (2014 – current)
Bill Lukin	Senior Lecturer	Faculty of Medicine	UQ (2008 – current)
Alexandra Markwell	Senior Lecturer	Faculty of Medicine	UQ (2012 – current)
Duncan McAuley	Senior Lecturer	Faculty of Medicine	UQ (2012 – current)
Kylie Mueller	Research Assistant	Medication-related emergency department presentations	2018
Philip Richardson	Senior Lecturer	Faculty of Medicine	UQ (2001 – current)
David Rosengren	Senior Lecturer	Faculty of Medicine	UQ (2006 – current)
Sean Rothwell	Senior Lecturer	Faculty of Medicine	UQ (2006 – current)
Rina Savage	Senior Lecturer	Faculty of Medicine	UQ (2017 – current)
Frances Williamson	Senior Lecturer	Faculty of Medicine	UQ (2012 – current)
Matilda Schmidt	Adjunct Lecturer	School of Paramedicine	QUT (2017 – current)
Brandon Allwood	Adjunct Lecturer	School of Nursing and Midwifery	Griffith University (2018 – current)

## 2018 Current RBWH Research Group / Department Led Research Activity

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
<b>Caitlin Lock (ETC)</b>	Sonia Osborne (QUT), Anthony Bell (The Wesley Hospital), Neil Cottrell (UQ), <b>Ian Coombes (Pharmacy)</b> , <b>Louise Cullen (ETC)</b> , David Brain (QUT)	Evaluation of clinical pharmacist medication review in ED and its impact on hospital length of stay for admitted older medical patients
<b>Matilda Schmidt (ETC)</b>	<b>James Hughes (ETC)</b> , <b>Kim Lai (ETC)</b> , <b>Julia Brownlie (ETC)</b> , <b>Amy Arnold (Women's and Newborn Services)</b>	Identifying the Usage and Appropriateness of Anti-D Immunoglobulin in the Pregnant Female Presenting to the Emergency Department
<b>Kevin Chu</b>	<b>Judith Bellapart (DICM)</b> , <b>Craig Winter (Neurosurgery)</b> , <b>Rosalind Jeffree (Neurosurgery)</b> , <b>Jeffrey Lipman (DICM)</b> , Jacobus Ungerer (Pathology Qld), Anita Pelecanos (QIMR Berghofer), <b>Anthony Brown (ETC)</b> , <b>Nathan Brown (ETC)</b>	Timing of lumbar puncture for the detection of xanthochromia in suspected subarachnoid haemorrhage
<b>Jaimi Greenslade</b>	<b>Louise Cullen (ETC)</b> , <b>William Parsonage (RBWH Cardiology)</b> , Nicholas Graves (QUT), Siegfried Perez (Logan Hospital), Fran Kinnear (TPCH), Christian Hamilton-Craig (TPCH), Niranjan Gaikwad (TPCH), <b>Tracey Hawkins (ETC)</b>	Limit of detection in the emergency department (LEGEND) trial: a pre-post intervention trial of a clinical decision rule to rule out acute myocardial infarction

## 2018 Current RBWH Research Group / Department Led Research Activity (cont)

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
Louise Cullen	William Parsonage (Cardiology)	Basel Syncope Evaluation Study (Basel IX)
Louise Cullen	Jaimi Greenslade (ETC), William Parsonage (Cardiology), Adam Scott (Cardiology), Jacobus Ungerer (Pathology Queensland), Tracey Hawkins (ETC), Gerben Keijzers (GCUH), Julia Crilly (Griffith University), Nicholas Graves (QUT), Ariel Ho (UQ)	Examining translation of research into improved assessment for heart attack
Louise Cullen	John Fraser, Kiran Shekar, Liam Byrne, Obonyo Nchfatso, Connie Boon, Louise See Ho, Margaret Passmore, Kathryn Maitland	Too much of a good thing; Does fluid resuscitation worsen septic shock?
Louise Cullen	Tracey Hawkins (ETC), Jaimi Greenslade (ETC)	Cannulation rates in the Emergency Department intervention trial
Philip Richardson	Elizabeth Doran (Pharmacy), Kevin Chu (ETC), Jaimi Greenslade (ETC)	Medication and Fluid orders in the Emergency Department: examining the incidence of error and adverse events
Alexandra Markwell	Tegwen Howell (ETC), Carol Windsor (QUT), Anthony Bell (ETC), Kevin Chu (ETC), Angela O'Malia (Social Work)	Describing the experiences of social workers in a tertiary ED
Kevin Chu	Carol Winsor (QUT), Tegwen Howell (ETC)	Understanding the variability in the diagnostic approach to subarachnoid haemorrhage: a qualitative study
John Burke	Gerald Fitzgerald (QUT)	Four-hour rule project – validation and impact of the four hour rule in the ED: a large data linkage study
Julian Williams	David Paterson (Infectious Diseases Unit), Graeme Nimmo (Microbiology), Jaimi Greenslade (ETC), Katherine Doucet, Kevin Chu (ETC), Jeffrey Lipman (ICU), Anthony Brown (ETC)	Identifying risk factors for MRSA
Daniel Bodnar	Emma Bosley (QAS), Stephen Rashford (QAS), Mark Shirran (GCUH), Catherine Hurn (ETC), Matthew Meister, Glenn Ryan (PAH)	Queensland pre-hospital study identifying which trauma patients are at risk of bleeding to death
Daniel Bodnar	Zoe Stevens (UQ), Stephen Rashford (QAS), Michael Handy (Trauma Service), Sue Williams (RBWH Blood Bank)	A retrospective, observational study examining the coagulation, full blood count and blood gas profiles for trauma patients receiving pre-hospital packed red blood cell transfusions
Rina Savage	Taylor Kline, Caitlin Lock, Champika Pattullo, Anthony Bell	Emergency Department Opioid Prescribing Intervention: Optimising Discharge (ED OPIOID) Study
Kevin Chu	Anthony Nguyen (Australian eHealth Research Centre, CSIRO)	Preventing missed diagnoses through automated reconciliation of ED medical records
Tina Moriarty	Kevin Chu (ETC), Daniel Bodnar (ETC)	Roll-overs in field triage (RIFT)
Anthony Bell	John Burke (ETC), Gerald Fitzgerald (QUT), Sam Toloo (QUT), Julia Crilly (GCUH), Ged Williams (GCUH)	State-wide models of care in emergency departments (SWAMPED)
Debra Harcourt	Leonie Cartlidge-Gaan (Internal Medicine), Clancy McDonald (ETC), John Burke (ETC), Anthony Nesbit (Patient Flow Unit), Amanda Dines (Executive Services)	Working together to connect care: emergency department frequent presenter's response project
Julia Brownlie	Jaimi Greenslade (ETC), Jessica Suna (ETC), Louise Cullen (ETC), James Hughes (ETC)	Emergency nurse practitioner in early pregnancy
Mercedes Ray	Julian Williams (ETC), James Hughes (ETC), Melisa Dixon (ETC), Angela Hills (ETC), Jill Duncan (ETC), Dr Jacqui Harper (Path Qld)	Identification of blood culture quality and current practices in the emergency and trauma centre
Julian Williams	James Hughes (ETC), Melisa Dixon (ETC), Angela Hills (ETC), Jill Duncan (ETC), Dr Jacqui Harper, Dr Jaimi Greenslade (ETC)	A prospective intervention study to improve the quality of blood cultures in the Emergency and Trauma Centre – <i>The Bugs in Bottles Project</i>
James Hughes	Brandon Allwood (ETC), Jacqui Chiu (UQ), Kevin Chu (ETC), Nathan Brown (ETC).	Exploring Current Pain Practices in the Emergency and Trauma Centre
Leonie Higgs	Di Atkinson (ETC), Nathan Brown (ETC), Leanne Bennett (ETC), Dave Kramer (ETC), Greg Merlo (QUT), Linda Schnicter (QUT)	A pragmatic randomised controlled trial of the effects of therapeutic activity kits in emergency department patients with dementia and responsive behaviours
Louise Cullen	Nathan Brown (ETC), Jaimi Greenslade (ETC), Peter Donovan (Clinical Pharmacology), Ian Coombes (Pharmacy), Neil Cottrell (UQ), Bill Lukin (ETC), Anthony Bell (ETC), Elizabeth Doran (ETC), David Hughes (ETC)	Prevalence and characteristics of medication-related presentations to the emergency department

## 2018 Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Doug Morel (Redcliffe Hospital)	Kevin Chu (ETC)	What influences the choice made by patients between emergency department and primary healthcare for acute illness?
Nam Nguyen (Royal Adelaide Hospital)	Anthony Brown (ETC)	The utility of the Glasgow-Blatchford score in predicting clinical outcome and stratifying the need for therapeutic intervention in hospitalised patients with upper gastrointestinal bleeding: a prospective validating study
Muhammad Alshyyab (QUT)	Kevin Chu (ETC)	Safety culture in the emergency department
Julia Crilly (Griffith University and GCUH)	David Rosengren (ETC), Sean Rothwell (ETC), Jill Duncan (ETC), Nathan Brown (ETC)	Evaluating the impact of alcohol on emergency department presentations (ETOH)
Shane George (GCUH)	Catherine Hurn (ETC), Anthony Holley (DICM)	Fibrinogen early in children with severe trauma study (FEISTY Junior)
James Winnearls (GCUH)	Catherine Hurn (ETC), Anthony Holley (DICM)	Fibrinogen early in severe trauma study (FEISTY)
Thomas Torpie (GCUH)	Alex Markwell (ETC), James Hughes (ETC), James Ready (ETC)	Domestic and family violence screening in the emergency department
Richard Skoien (RBWH Gastroenterology)	Anthony Brown (ETC)	Examination of health outcomes associated with paracentesis in patients admitted with decompensated cirrhosis
Andrea Driscoll (Deakin University)	Louise Cullen (ETC)	Redesigning systems of care for heart failure patients to improve outcomes
William Crawford (TPCH)	Louise Cullen (ETC)	Impact of fluid volume resuscitation on nitric oxide-induced oxidative stress and cardiac dysfunction in an ovine septic shock model
Christopher Reid (Curtin University of Technology, WA)	Louise Cullen (ETC)	Centre for Research Excellence in Cardiovascular Outcomes Improvement
John Fraser (TPCH)	Louise Cullen (ETC)	Cardiovascular haemodynamics in an ovine model of brain stem death
Frances Kinnear (TPCH)	Kevin Chu (ETC)	A randomised controlled trial of interventional versus conservative treatment of primary spontaneous pneumothorax
Stephen Rashford (QAS)	Daniel Bodnar (ETC)	A prospective blinded evaluation of the sensitivity and specificity of pre-hospital Focussed Abdominal Sonogram for Trauma (FAST)
Mark Cruickshank (RBWH Physiotherapy)	Venkat Acholi (ETC), Janelle Heine (ETC), David Kramer (ETC)	Physiotherapy defined scope of practice (prescribing)
Wahid Allahaibi (QUT)	John Burke (ETC)	A New Approach to Optimise Hospital Emergency and Inpatient Operations
Kasi Ahsan (QUT)	John Burke (ETC)	Lean integrated optimisation model of emergency department for improved patient flow
Julia Crilly (Griffith University and GCUH)	Jaimi Greenslade (ETC), James Hughes (ETC)	Morale, stress and coping strategies of staff working in the emergency department: a national and international comparison
Nicola Harper (RBWH Pharmacy)	Jessica Suna (ETC)	A pre- and post-evaluation of the impact of an Automated Medication Distribution System (AMDS) on medication administration in the RBWH Emergency Department
Paul Haber (RPAH, University of Sydney)	Clancy McDonald (ETC)	Reconnecting after a suicide attempt (RAFT) – feasibility study
Georgia Livesay (PAH)	James Hughes (ETC), Nathan Brown (ETC), Tegwen Howell (ETC)	Understanding the patterns, circumstance and outcomes of power tool injuries in occupational and domestic settings to inform a safety campaign
Mahender Samtani (RBWH Physiotherapy)	Jennifer Paratz (Physiotherapy), Shaun O'Leary (Physiotherapy), Venkat Acholi (ETC), Janelle Heine (ETC), David Kramer (ETC), Louise Cullen (ETC)	Comparison of two exercise approaches for the management of low back pain in the emergency department setting
Kirsten Vallmuur (QUT)	Nathan Brown (ETC)	Understanding serious quad bike-related injuries in Queensland and Northern Territory: comparing circumstances, patterns, severity, costs and outcomes
Fran Kinnear (TPCH) Petra Lawrence (QUT)	Clancy McDonald (ETC) James Hughes (ETC), Amanda Petrie (USC)	Impact of legislation changes to involuntary orders on emergency department presentations: a retrospective chart audit
Flavia Huygens (QUT)	James Hughes (ETC), Julian Williams (ETC), Graeme Nimo (Pathology Qld)	Testing of InfectID® using blood samples

## 2018 Research Awards and Achievements

Recipient	Award	Event
Louise Cullen	Citation of the Branch	Australian Medical Association, Queensland
Louise Cullen	Chief Executive's Award	Metro North Hospital and Health Service Research Excellence Awards 2018
Jaimi Greenslade	Highly Commended – Research Support Award	Metro North Hospital and Health Service Research Excellence Awards 2018
Tracey Hawkins	Research into practice award	International Conference for Emergency Nursing 2018
James Hughes	Best Research Presentation – Runner up	International Conference for Emergency Nursing 2018
Page CB, Parker LE, Rashford SJ, Bosley E, Isoardi KZ, <b>Williamson FE</b> , Isbister GK	John Gilroy Potts Award for Best Publication by a Fellow in 2018	Australasian College for Emergency Medicine 35 <sup>th</sup> Annual Scientific Meeting 2018

## 2018 Research Publications

### Journal Articles:

1. **Abraham LJ**, Thom O, **Greenslade JH**, Wallis M, Johnston AN, Carlstrom E, et al. Morale, stress and coping strategies of staff working in the emergency department: A comparison of two different-sized departments. *Emerg Med Australas*. 2018;30(3):375-81
2. **Bell A**, Toloo GS, Crilly J, **Burke J**, Williams G, McCann B, et al. Emergency department models of care in Queensland: a multisite cross-sectional study. *Aust Health Rev*. 2018(In press)
3. Braganza S, **Markwell A**, Jayasekara S. Wellness, resilience and performance: translating ideas into action. *Emerg Med Australas*. 2018;30(2):263-5
4. Byrne L, Obonyo NG, Diab S, Dunster K, Passmore M, Boon AC, **Cullen L**, et al. An Ovine Model of Hyperdynamic Endotoxemia and Vital Organ Metabolism. *Shock*. 2018;49(1):99-107
5. Carlton EW, Pickering JW, **Greenslade J**, **Cullen L**, Than M, Kendall J, et al. Assessment of the 2016 National Institute for Health and Care Excellence high-sensitivity troponin rule-out strategy. *Heart (British Cardiac Society)*. 2018;104(8):665-72
6. **Chu K**, Windsor C, Fox J, Howell T, Keijzers G, Eley R, et al. Factors influencing variation in investigations after a negative CT brain scan in suspected subarachnoid haemorrhage: a qualitative study. *Emerg Med J*. 2018(In press)
7. **Chu KH**, **Brown NJ**, Pelecanos A, Brown AFT. Simpson's paradox: a statistician's case study. *Emerg Med Australas*. 2018;30(3):431-3
8. **Chu KH**, Keijzers G, Furyk JS, Eley RM, Kinnear FB, Thom ON, et al. Applying the Ottawa subarachnoid haemorrhage rule on a cohort of emergency department patients with headache. *Eur J Emerg Med*. 2018;25(6):e29-e32
9. **Chu KH**, **Mahmoud I**, **Hou X-Y**, Winter CD, Jeffree RL, Brown NJ, et al. Incidence and outcome of subarachnoid haemorrhage in the general and emergency department populations in Queensland from 2010 to 2014. *Emerg Med Australas*. 2018;30(4):503-10
10. Du Fay de Lavallaz J, Badertscher P, Nestelberger T, Isenrich R, Miró Ò, Salgado E, Cullen L, **Greenslade J**, **Hawkins T**, et al. Prospective validation of prognostic and diagnostic syncope scores in the emergency department. *Int J Cardiol*. 2018;269:114-21
11. Fan L, **Lukin B**, Zhao J, Sun J, Dingle K, **Purtill R**, et al. Cost analysis of improving emergency care for aged care residents under a Hospital in the Nursing Home program in Australia. *PLoS One*. 2018;13(7):e0199879
12. Greenslade J, Cho E, Van Hise C, **Hawkins T**, **Parsonage W**, **Ungerer J**, et al. Evaluating Rapid Rule-out of Acute Myocardial Infarction by Use of a High-Sensitivity Cardiac Troponin I Assay at Presentation. *Clin Chem*. 2018;64(5):820-9
13. **Greenslade JH**, Adikari T, Mueller C, Sandoval Y, Nestelberger T, **Parsonage W**, et al. Characteristics and occurrence of type 2 myocardial infarction in emergency department patients: a prospective study. *Emerg Med J*. 2018;35(3):169-75
14. **Greenslade JH**, Chung K, **Parsonage WA**, **Hawkins T**, Than M, Pickering JW, et al. Modification of the Thrombolysis in Myocardial Infarction risk score for patients presenting with chest pain to the emergency department. *Emerg Med Australas*. 2018;30(1):47-54
15. **Harcourt DI**, **McDonald CJ**, **Carlidge-Gann L**, **Brown NJ**, Rayner K. Frequent presentations to emergency departments and the collaborative community and emergency response: A case series. *Journal of Integrated Care*. 2018;26(4):267-76
16. Hassanzadeh H, Nguyen A, Karimi S, **Chu K**. Transferability of artificial neural networks for clinical document classification across hospitals: A case study on abnormality detection from radiology reports. *Journal of Biomedical Informatics*. 2018;85:68-79
17. **Hughes J**, Cabilan C, **Williams J**, **Ray M**, **Coyer FJ**. The effectiveness of interventions to reduce peripheral blood culture contamination in acute care: a systematic review protocol. 2018;7(1):216
18. Judge C, Eley RM, Miyakawa-Liu M, **Brown NJ**, McCosker L, Livesay G, **Hughes J**, et al. The characteristics of accidental injuries from power tools treated at two emergency departments in Queensland. *Emerg Med Australas*. 2018 (In press)
19. Kavsak PA, Neumann JT, **Cullen L**, Than M, Shortt C, **Greenslade JH**, et al. Clinical chemistry score versus high-sensitivity cardiac troponin I and T tests alone to identify patients at low or high risk for myocardial infarction or death at presentation to the emergency department. *Can Med Assoc J*. 2018;190(33):E974-84
20. Keijzers G, **Cullen L**, Egerton-Warburton D, Fatovich DM. Don't just do something, stand there! The value and art of deliberate clinical inertia. *Emerg Med Australas*. 2018;30(2):273-78

### Journal Articles: (cont):

21. Knafel EG, **Hughes JA**, Dimeski G, Eley RJTOJ. Rhabdomyolysis: patterns, Circumstances, and Outcomes of Patients Presenting to the Emergency Department. 2018;18(3):215
22. Page CB, Parker LE, Rashford SJ, Bosley E, Isoardi KZ, **Williamson FE**, et al. A Prospective Before and After Study of Droperidol for Prehospital Acute Behavioral Disturbance. *Prehosp Emerg Care*. 2018;22(6):713-21
23. Pickering JW, Young JM, George PM, Watson AS, Aldous SJ, Troughton RW, **Cullen L**, et al. Validity of a Novel Point-of-Care Troponin Assay for Single-Test Rule-Out of Acute Myocardial Infarction. *JAMA Cardiology*. 2018;3(11):1108-12
24. Pretorius CJ, Tate JR, Wilgen U, **Cullen L**, **Ungerer JPI**. A critical evaluation of the Beckman Coulter Access hsTnI: Analytical performance, reference interval and concordance. *Clin Biochem*. 2018;55:49-55
25. Ryan G, Swift K, **Williamson F**, Scriven E, Zheng O, Eley R. Feasibility of REBOA – Resuscitative Endovascular Balloon Occlusion of the Aorta—in Trauma-Related Noncompressible Torso Hemorrhage at Two Metropolitan Trauma Centers. *Ochsner Journal*. 2018;18(3):201-3
26. Shetty A, Macdonald SPJ, Keijzers G, **Williams JM**, Tang B, de Groot B, et al. Review article: Sepsis in the emergency department – Part 2: investigations and monitoring. *Emerg Med Australas*. 2018;30(1):4-12
27. Strudwick K, McPhee M, **Bell A**, Martin-Khan M, Russell T. Review article: best practice management of common ankle and foot injuries in The emergency department (part 2 of the musculoskeletal injuries rapid review series). *Emerg Med Australas*. 2018;30(2):152-80
28. Strudwick K, McPhee M, **Bell A**, Martin-Khan M, Russell T. Review article: Best practice management of common shoulder injuries and conditions in the emergency department (part 4 of the musculoskeletal injuries rapid review series). *Emerg Med Australas*. 2018;30(4):456-85
29. Strudwick K, McPhee M, Bell A, Martin-Khan M, Russell T. Review article: best practice management of closed hand and wrist injuries in the emergency department (part 5 of the musculoskeletal injuries rapid review series). *Emerg Med Australas*. 2018;30(5):610-40
30. Sullivan KA, Edmed SL, **Greenslade JH**, White M, **Chu K**, **Lukin B**, et al. Psychological Predictors of Postconcussive Symptoms Following Traumatic Injury. *J Head Trauma Rehabil*. 2018;33(4):E47-60
31. Than MP, Aldous SJ, Troughton RW, Pemberton CJ, Richards AM, Frampton CMA, **Greenslade J**, **Cullen L**, et al. Detectable High-Sensitivity Cardiac Troponin within the Population Reference Interval Conveys High 5-Year Cardiovascular Risk: An Observational Study. *Clin Chem*. 2018;64(7):1044
32. Thomsett R, **Cullen L**. The assessment and management of chest pain in primary care: a focus on acute coronary syndrome. *Aust J Gen Pract*. 2018;47(5):246-51
33. **Williams JM**, **Greenslade JH**, **Chu KH**, **Brown AF**, **Lipman J**. Utility of community-acquired pneumonia severity scores in guiding disposition from the emergency department: Intensive care or short-stay unit? *Emerg Med Australas*. 2018;30(4):538-46.

### 2018 Conference Presentations – Invited Speaker, Oral and Poster

#### Invited Speaker:

1. **Cullen L**. Don't just do something, stand there! 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018.

#### Oral Presentations:

1. **Ryan K.**, Jack L., Barnard A., **Hughes J.A.**, The lived experience of emergency nurses caring for elderly patients dying from traumatic injuries, International Conference for Emergency Nursing, October 2018, Melbourne
2. **Hawkins T.**, Changing the culture of the 'just in case' cannula in the emergency department, International Conference for Emergency Nursing, October 2018, Melbourne
3. **Staines E.**, Breaking Nursing Silos: a collaborative approach to improving transitional care, International Conference for Emergency Nursing, October 2018, Melbourne
4. **Schmidt M.**, To bleed or not to bleed, International Conference for Emergency Nursing, October 2018, Melbourne
5. Brown J., East K., Zhang P., Byrnes J., **Duncan J.**, Jones L., Brown N., clinical care requirements of alcohol-related presentations made to emergency departments – a multi-site study., International Conference for Emergency Nursing, October 2018, Melbourne
6. East K., Brown J., Zhang P., Byrnes J., **Duncan J.**, Jones L., Brown N., Rosengreen D., Green D., Furyk D., Rothwell S., Crilly J., Evaluating the impact of alcohol on emergency department presentations., International Conference for Emergency Nursing, October 2018, Melbourne
7. **Hughes, J. A.**, Yates, P., Spencer, L., Alexander, K., The Person, Environment, Health and Illness Factors Influencing Time to First Analgesic Medication in the Emergency Department., International Conference for Emergency Nursing, October 2018, Melbourne
8. **Hughes, J. A.**, Judge C, Eley R, Valmuur K, Livesay G, Miyakawa M, Boyde M, Pollard C, Brown N, The characteristics and causes of accidental injuries from power tool in patients presenting to two Queensland emergency departments, International Conference for Emergency Nursing, October 2018, Melbourne
9. **Hughes, J. A.**, Yates, P., Spencer, L., Alexander, K., The experience of care of patients presenting in pain to the emergency department, International Conference for Emergency Nursing, October 2018, Melbourne – Runner up best research presentation
10. **Hughes, J. A.**, Yates, P., Spencer, L., Alexander, K., Person, Environment, Health and Illness Factors Influencing Time to Analgesia in the Adult Emergency Department, Emergency Care Institute Research Symposium, Invited Speaker, June 2018
11. **Hughes J.A.**, Yates P., Spencer L., Alexander K., (2018) The experience of care of patients presenting in pain to the emergency department, Metro-North HHS Nursing and Midwifery Conference, Brisbane, Australia
12. Helena J., Burkett E., **Hughes J.A.**, (2018) Blood Stream Infections in the Emergency Department: a retrospective observational study of adult Emergency Department presentations with bacteremia



### Oral Presentations: (cont):

13. Lescerak C., Cabilian CJ., **Hughes J.A.**, Tuckett A., (2018) Who is more likely to receive nurse-initiated analgesia in the ED? ACEM Autumn Symposium, Brisbane, Australia
14. **Hawkins T.**, Greenslade J., Cullen L., Peripheral intravenous cannula insertion and use in the emergency department: a multi-modal approach to culture change., Metro North Hospital and Health Service Nursing and Midwifery Conference, Brisbane, March 2018.

### Poster Presentations:

1. **Pattullo C, Ranigs H, Peters N, Hajkowicz K, Hanly R, Donovan P, Lock C.** Choosing the correct antibiotic dose and duration for prophylaxis in orthopaedic surgery. Choosing Wisely National Meeting; Canberra. 30 May 2018
2. **Schmidt M, Brownlie J, Lai K, Arnold A, Hughes J.** Anti-D use in the ED: identifying current practices and the appropriateness of use. 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018
3. **Savage R.** Quality, cost, value: ED OPIOID: the effects of an intervention on emergency department oxycodone prescribing and communication at discharge. International Forum on Quality and Safety in Healthcare; Melbourne. 11-12 September 2018
4. **Pattullo C, Lock C.** Improvement Works in Progress: Opioid Prescribing Toolkit. International Forum on Quality and Safety in Healthcare; Melbourne. 11-12 September 2018
5. **Nolan J, Michalski M, Halford M, Legg A, Groom P, McCarthy K.** Outpatient management for patients presenting to emergency with cellulitis who still require intravenous antibiotic therapy: an audit of a new discharge pathway. 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018
6. **Lock C, Bell A.** Improvement Works in Progress: ED Medicine Wise: Fostering a Medicine Wise Culture in the Emergency Department International Forum on Quality and Safety in Healthcare; Melbourne. 11-12 September 2018
7. **Lock C.** Building capability and leadership: Qual-ED: creating a culture of value-driven quality in the emergency department. International Forum on Quality and Safety in Healthcare; Melbourne. 11-12 September 2018
8. Ho A, **Greenslade J, Hawkins T, Cullen L.** Troponin testing post-implementation of IMPACT, an accelerated chest pain protocol. 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018
9. **Foran L, Parsonage W,** Graves N, McCormack L, **Ashover S, Milburn T, Greenslade J,** Starmer G, Drahm-Butler T, Davis T, Mowatt E, Proctor K, Campbell V, **Cullen L.** Collaborating for Aboriginal and Torres Strait Islander chest pain research. 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018
10. **Duncan J, Brown N, Hughes J, Trudgett S,** Crilly J, **Rothwell S, Rosengren D.** Documentation of security interventions in the ED: communicating care in the clinical record. 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018
11. **Duncan J, Brown N, Hughes J, Trudgett S,** Crilly J, **Rothwell S, Rosengren D.** Documentation of security interventions in the ED: communicating care in the clinical record. 12<sup>th</sup> International Conference for Emergency Nursing; Melbourne, Australia. 10-12 October 2018
12. **Cruikshank M, Sam S, Heine J, Acholi V.** Physiotherapy prescribing in emergency. 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018
13. **Bodnar D, Brown NJ, Stevens Z, Williams S, Handy M,** Rashford SJ. Hypofibrinogenaemia and hypocalcaemia in trauma patients are potential therapeutic targets during pre-hospital care. 27<sup>th</sup> Annual RBWH Healthcare Symposium; Brisbane, Australia. 11-13 September 2018
14. Leskarac C, Caliban CJ, **Hughes J,** Eley R, Tuckett A. Who is more likely to receive nurse-initiated analgesia in the emergency department? A case-control study. Princess Alexandra Research Symposium; Brisbane. 2018
15. **Marks J, Randell T, Hughes J.** A retrospective audit of 12 months of domestic and family violence victim presentations to the Royal Brisbane and Women's Hospital Emergency and Trauma Centre with access to 24-hour social work. 4<sup>th</sup> Stop Domestic Violence Conference; Gold Coast. 3-5 December 2018
16. **Caole M, Brown N, Hughes J, Chu K.** Drug treatment of headache in the ED. Australasian College for Emergency Medicine 35<sup>th</sup> Annual Scientific Meeting; Perth. 18-22 November 2018.

### Other Communications and Outputs:

**Hughes, J. A.** (2018). Person, environment, and health and illness factors influencing time to first analgesia and patient experience of pain management in the adult emergency department (Doctoral dissertation, Queensland University of Technology).

## Genetic Health Queensland

Genetic Health Queensland (GHQ) is a state-wide service which provides clinical genetics services for all age groups in the state of Queensland. GHQ contributes to national and international research projects, and educational sessions at RBWH, Queensland Children's Hospital (QCH) and regional centres. GHQ clinical staff undertake presentations to other health professional groups and non-government organisations.

In 2018, the ICon partnership projects, which began at GHQ in 2015, were completed. This includes the addition of all QLD carriers of an inherited cancer syndrome mutation, up to the 31 December 2016 (deidentified), into the national ICon database.

This year, GHQ continued its close involvement in the Australian Genomic Health Alliance (AGHA) (a \$25 million 5-year grant from the NHMRC) to prepare Australia for the Genomics Revolution in Healthcare. AGHA brings together more than 50 partner organisations committed to integrating genomic medicine into healthcare across Australia. This has included the appointment of GHQ Australian Genomics research staff including a project officer, Flagship Project Coordinator and two part-time Genetic Counsellors. In 2018, GHQ recruited >90 patients into the project at RBWH (combined total for Renal and ICon flagships). GHQ Australian Genomics staff are also working with clinicians at QCH on several other AGHA flagships. In total, across all the flagships that GHQ AGHA staff are involved with, >200 patients have been recruited. Furthermore, staff are collaborating with researchers from organisations including QIMR-Berghofer, UQ, QGHA and others, locally and interstate, in programs regarding bioinformatics, workplace education, ethical and legal issues, implementation, health economics and policy associated with genomic medicine.

Further, the Cardiovascular Genetics AGHA Flagship has now commenced, led by GHQ Director Prof Julie McGaughran. This flagship will recruit and provide genomic testing of around 150 families that are being seen at GHQ with congenital heart disease, arrhythmia disorders and cardiomyopathies. Furthermore, Prof McGaughran is involved in the Clinical Committee and Disease and Gene Selection Committee of MacKenzie's Mission. Mackenzie's Mission is a research study of reproductive genetic carrier screening for approximately 500 debilitating genetic conditions including Spinal Muscular Atrophy (SMA), fragile X syndrome and cystic fibrosis, which has been awarded \$20 million by the Australian Government.

Several Research projects have commenced at Genetic Health Queensland this year including the CaPP3 clinical trial, BIG health Project (indigenous health), Young people with LI Fraumeni Syndrome and ELSI survey (QGHA).

The ELSI survey is a sub study of the Ethics, Legal and Social implication in genomics working stream of the Queensland Genomics Health Alliance (QGHA), which has been established to ensure the safe delivery of genomic medicine for Queenslanders. GHQ clinicians and Genetic counsellors involvement in national and international research collaborations has seen them author over 15 research publications this year and present at national and international conferences.

2018 was a productive year for GHQ and we continue to build and expand the foundation for ongoing important research collaborations both within the RBWH and with an increasing number of external institutions.

### 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions

Name	Type of Fellowship	Research Program	University (years)
<b>Prof Julie McGaughran</b>	Professor Cardiovascular Genetic Disorders Flagship Co-Lead Committee Member	Australian Genomics Health Alliance (AGHA) Mackenzie's Mission (Australian, Reproductive Carrier Screening Project)	UQ
<b>Dr Michael Quinn</b>	Queensland State Project Officer for Australian Genomics	AGHA	NA
<b>Ms Melanie Tom</b>	Genetic Counsellor for Australian Genomics	AGHA – Malformations of Cortical Development, Leukodystrophies, Neuromuscular and Epileptic Encephalopathy Flagships	NA
<b>Dr Lindsay Fowles</b>	Genetic Counsellor for Australian Genomics (Renal flagship)	AGHA	NA
<b>Ms Rachel Austin</b>	Clinical Research Assistant, Flagship Coordinator	AGHA – ICon and Cardiac, RBWH Research Foundation, CaPP3, BIG project	NA
<b>Dr Helen Marfan</b>	Co-Investigator	AGHA, ICon	NA
<b>Dr Rachel Susman</b>	Co-Investigator	AGHA, ICon, Genetics of Sebaceous skin lesions	NA
<b>Dr Chirag Patel</b>	Co-Lead QLD Renal Genetic Program	KidGen Collaborative, AGHA Renal Genetics and HIDDEN Flagships	NA

## 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions (cont)

Name	Type of Fellowship	Research Program	University (years)
<b>Ms Linda Wornam</b>	AGHA Cardiac Genetic counsellor	AGHA Cardiac	NA
<b>Ms Julie White</b>	BIG project (CI)	Better Indigenous Genetic Health (BIG) Project	NA
<b>A/Prof Andrew Mallett</b>	Clinical Fellow, Co-Lead QLD Renal Genetics Program, National Director AGHA	KidGen Collaborative, AGHA Renal Genetics and HIDDEN Flagships	UQ

## 2018 Current RBWH Research Group / Department Led Research Activity

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
<b>Prof Julie McGaughran</b>	Prof Chris Semsarian (Co lead), AGHA Flagship	Cardiovascular Genetic Disorders Flagship (AGHA)
<b>A/Prof Andrew Mallett</b>	<b>Prof Julie McGaughran, Dr Chirag Patel,</b> AGHA Renal Flagship	Applying genomics to inherited tubulointerstitial and cystic kidney diseases in Australia (RBWH Foundation research grant)
<b>A/Prof Andrew Mallett</b>	<b>Andrew Mallett, Mohammad Al-Shinnag, Helen Mar Fan, Rachel Susman</b>	Clinical audit of BHD, HLRCC and VHL at RBWH
<b>A/Prof Andrew Mallett</b>	AGHA Renal Flagship <b>Dr Chirag Patel (CI), Prof Julie McGaughran (PI), Dr Lindsay Fowles (GC)</b>	KidGen – renal genetics flagship

## 2018 Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Prof Kathryn North	Prof Julie McGaughran	Australia Genomics Health Alliance (AGHA)
AGHA ICCon Cancer Flagship	Prof Julie McGaughran, Dr Helen Marfan, Rachel Austin (CRA), Dr Rachel Susman, Jan Wakeling (GC)	AGHA: preparing Australia for genomic medicine
AGHA Cardiac Flagship, Chris Semsarian (Co-lead)	Prof Julie McGaughran (co-lead), Dr Michael Quinn, Rachel Austin (CRA), Linda Wornham (GC)	AGHA: preparing Australia for genomic medicine: rare disease flagships: Cardiovascular Genetic Disorders
COSA (Lead by Judy Do and Bettina Meiser)	Dr Helen Marfan	BRCA Mainstreaming project
IMPACT Geoffrey Lindeman (Lead)	Dr Rachel Susman	Identification of Men with a genetic predisposition to ProstAte Cancer: targeted screening in men at higher genetic risk and controls (IMPACT)
ICCon Partnership – Paul James and Gillian Mitchell (Leads)	Prof Julie McGaughran, Dr Rachel Susman, Rachel Austin (CRA)	The Inherited Cancer Connect (ICCon) partnership
Prof Finlay Macrae (lead)	Dr Helen Marfan (PI), Rachel Austin (CRA)	A randomised double-blind dose noninferiority, Trial of aspirin in Lynch syndrome. CaPP3
QGHA ELSI working group, Dr Miranda Vidgen (Lead)	Prof Julie McGaughran (PI)	The use of genomic data from medical records in research: Patient opinion survey (ELSI sub study)
BIG project team – Prof Margaret Kelaher (Lead)	Julie McGaughran (PI)	Better Indigenous Genetic (BIG) Health Services
Prof Ingrid Winship (Lead)	Dr Rachel Susman	Genetics of Sebaceous Skin Lesions Study

## 2018 Research Grants – Awarded

Investigators (RBWH staff in bold)	RBWH Research Groups/ Departments	Project Title	Granting Body	Amount in 2018	Total Amount (years)
<b>Prof Julie McGaughran (CI)</b>	Genetic Health Queensland	AGHA: preparing Australia for Genomic Medicine	NHMRC	Nationally \$5 million annually for 5 years	2016-2020
<b>Andrew Mallett, Chirag Patel, Julie McGaughran</b>	Renal department, Genetic Health Queensland	Applying genomics to inherited tubulointerstitial and cystic kidney diseases in Australia	RBWH Foundation	\$40,000	1 year

## 2018 Research Publications

### Journal Articles:

1. Nguyen NMP...**Patel C.** et al., The genetics of recurrent hydatidiform moles: new insights and lessons from a comprehensive analysis of 113 patients. *Modern Pathology*, (2018) 31(7), 1116-1130
2. Joo JE...KconFab (**Michael Gattas**) et al., Heritable DNA methylation marks associated with susceptibility to breast cancer. *Nature communications*, (2018) 9
3. Jayasinghe K, Quinlan C, Stark Z, **Patel C.** et al., Meeting report of the 2017 KidGen renal genetics Symposium. *Human genomics*, (2018) 12, 5
4. Fry AE...**Patel CV** et al De Novo mutations in GRIN1 cause extensive bilateral polymicrogyria. *Brain: a journal of neurology*. (2018) Epub ahead of print
5. Bachmeier C, **Patel C**, Kanowski P, Sangla K. et al., Should all patient with hyperparathyroidism be screened for a CDC73 mutation? *Endocrinol Diabetes Metab Case Rep*, (2018) 8
6. Mason JA...**Susman RD** et al., Demonstration of a novel Xp22.2 microdeletion as the cause of familial extreme skewing of X-inactivation utilizing case-parent trio SNP microarray analysis. *Mol Genet Genomic Med*, (2018) 6 (3), 57-369
7. Meiser B...**Susman R** et al., Psychological outcomes and surgical decisions after genetic testing in women newly diagnosed with breast cancer with and without a family history. *European Journal of Human Genetics*, (2018) 26 (7), 972-983
8. Mikropoulos C...**Susman R** et al., Prostate-specific antigen velocity in a prospective prostate cancer screening study of men with genetic predisposition. *BJC*, (2018) 118(2), 1-11
9. Diana E Benn...**Helen Marfan...Rachel Susman** et al., Bayesian approach to determining penetrance of pathogenic SDH variants. *J Med Genet*, (2018) 0:1-6 Epub ahead of print
10. Wambach JA...**Patel C** et al., Bi-allelic POLR3A Loss-of-Function Variants Cause Autosomal-Recessive Wiedemann-Rautenstrauch Syndrome. *Am J Hum Genet.* (2018) 103(6):968-975
11. Kennedy J...**Patel C** et al., KAT6A Syndrome: genotype-phenotype correlation in 76 patients with pathogenic KAT6A variants. *Genet Med.* (2018) [Epub ahead of print]
12. Jayasinghe K...**Patel C** et al., Renal genetics in Australia: kidney medicine in the genomic age. *Nephrology (Carlton)*. (2018) [Epub ahead of print] Review
13. Ng MSY...**Patel C** et al., CFHR5 Nephropathy in a Greek-Cypriot Australian Family: Ancestry-Informed Precision Medicine. *Kidney Int Rep.* (2018) 3(5):1222-1228
14. Aldridge M, **Patel C**, Mallett A, Trnka P. Antenatally Diagnosed ADPKD. *Kidney Int Rep.* (2018) 3(5):1214-1217
15. Forbes TA...**Patel C** et al., Patient-iPSC-Derived Kidney Organoids Show Functional Validation of a Ciliopathic Renal Phenotype and Reveal Underlying Pathogenetic Mechanisms. *Am J Hum Genet.* (2018) 102(5):816-831
16. Richardson E, Spinks C, Davis A, Turner C, Atherton J, **McGaughran J**, Semsarian C, Ingles J. Psychosocial implications of living with atecholaminergic polymorphic ventricular tachycardia in adulthood. *2018 Journal of Genetic Counseling.* Jun;27(3):549-557
17. Cecilie Bredrup, Tomasz Stokowy, **Julie McGaughran**, Samuel Lee, Dipak Sapkota, Ileana Cristea, Linda Xu, Kåre Steinar Tveit, Gunnar Høvdning, Vidar Martin Steen, Eyvind Rødahl, Ove Bruland, Gunnar Houge. A tyrosine kinase-activating variant Asn666Ser in PDGFRB causes a progeria-like condition in the severe end of Penttinen syndrome *EJHG online* 20/12/18.

### Book Chapters / Letters:

1. Stevenson P, Rodins K, Susman R. The association between multiple pilomatrixomas and APC gene mutations. *Australian Journal of Dermatology*, (2018) 59(4), 273-274.

## 2018 Conference Presentations – Invited Speaker, Oral and Poster

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### Invited Speaker:

1. **Troth S.** How Genetics Influence Our Health. Ausmed Nurses Conference 2018. Bundaberg, Australia
2. **Troth S.** Hereditary Cancer and Genetic Counselling. The Friendlies MDT 2018. Bundaberg, Australia
3. **Boon M.** Genetics update. Pink Hope QLD Information Day 2018. Brisbane, Australia
4. **Van Spaendonck-Zwarts K.** Cardiomyopathy Discussion Panel. International Clinical Cardiovascular Genetics Conference 2018. Brisbane, Australia
5. **McGaughran J.** Developing a national consent form for genomics. RCPA conference 2018. Sydney, Australia
6. **McGaughran J.** Panel discussions on Genomics. Ehealth expo 2018. Brisbane, Australia
7. **McGaughran J.** Workshop on patient-centred genomics. Garvan Institute 2018. Sydney, Australia
8. **Wornham, L.** Issues associated with HD predictive testing. HD Forum 2018. Brisbane, Australia
9. **Hunt L.** Women in Science. Mt St Michael's Future's Conference. Brisbane, Australia
10. **McGrath, P.** NPT vs Nuchal Translucency at Improving Outcomes: Queensland Mothers and babies. Translational research institute PA Hospital 2018. Brisbane, Australia
11. **Quinn M.** Genomics in medicine: implementation of Genomics into Healthcare in Australia. HGSA QLD Branch education meeting 2018. Brisbane, Australia
12. **Patel C.** Genomics in medicine: genomics in the Clinic. HGSA QLD Branch education meeting 2018. Brisbane, Australia
13. **Mehta S.** Inherited Cardiovascular Conditions: Cambridge Experience. HGSA QLD branch. Brisbane, Australia
14. **Sane V.** A Brief Overview of Genetic Counselling. Prince Charles Hospital. Brisbane, Australia
15. **Sane V.** A Brief Overview of Cancer Genetics. Cancer care Forum, Price Charles Hospital. Brisbane Australia.

### Oral Presentations:

1. **Marfan H, Susman R.** Development of a data portal for aggregation and analysis of genomics data in familial platelet disorder with predisposition to myeloid malignancy – the RUNX1.db. American Society of Hematology Annual Meeting 2018. California, USA
2. **Van Spaendonck-Zwarts K.** Genetic Testing in DCM – don't just look at the heart. CSANZ Annual Scientific Meeting 2018. Brisbane, Australia
3. **Susman R.** GI Tract cancer predisposition syndromes. Gastroenterological Society of Australia 2018. Brisbane, Australia
4. **Wakeling J.** The Queensland Familial Cancer Registry. Gastroenterological Society of Australia 2018. Brisbane, Australia
5. **Patel C.** Genomics in Acute Care – NICU/PICU. 27<sup>th</sup> Annual RBWH Healthcare Symposium 2018. Brisbane, Australia
6. **Patel C.** Genetic Renal Disease. HGSA(AACG)-RACP Webinar 2018. Brisbane, Australia.

### Poster Presentations:

1. **Higgins, M. J McGaughran** Further delineation of Bainbridge-Ropers syndrome in five Australasian patients. HGSA Scientific Meeting 2018. Sydney, Australia, Manchester Dysmorphology Meeting, 2018
2. **Tom M,** Edwards S, Boggs K, Wilkins E, de Silva M. Challenges and Successes in Research Genetic Counselling in an Australian National Program. HGSA Scientific Meeting 2018. Sydney, Australia
3. **Gattas M.** Why do patients change their mind about cancer gene testing? HGSA Scientific Meeting 2018. Sydney, Australia
4. Cops E, Michael-Lovett C, James P, **Austin R...McGaughran J, Susman R.** ICon Familial Cancer Database. Familial Aspects of Cancer: research & Practice 2018. Kingscliffe, Australia
5. Dressel U...**Marfan H** et al. The Australian Genomics ICon Flagship: Hereditary Cancer Syndromes. Familial Aspects of Cancer: research and Practice 2018. Kingscliffe, Australia.

# Hyperbaric Medicine Service

## About this service:

The RBWH Hyperbaric Medicine Service provides inpatient and outpatient treatments in line with evidence based indications approved by the international scientific body, The Undersea and Hyperbaric Medicine Society. It is a subspecialty of the Australian and New Zealand College of Anaesthesia but indications are derived from multiple specialities. Approximately 50% of the current workload is provided in support of the late effects of therapeutic radiation induced tissue damage, both symptomatic treatment of and surgical intervention within. There are applications wherever microvascular disease impedes normal tissue metabolism. Support is provided for endovascular and tissue bubble injury, for example with decompression illness and CAGE, both within the recreational and commercial diving community and iatrogenic injury.

## Highlights of 2018:

Work has continued around the newest indication for treatment with hyperbaric oxygen therapy, Idiopathic Sudden Sensorineural Hearing Loss. The timing and dose of the hyperbaric oxygen intervention is being investigated. A previously published paper by the department supported a Cochrane review highlighting Hyperbaric Oxygen as the most effective therapy in the treatment of Idiopathic Sudden Sensorineural Hearing Loss. A randomised RCT protocol is being developed to further the quality of evidence in this area. The department published a paper detailing the results of a double blinded control trial examining the utility of hyperbaric oxygen as an adjunct in the treatment of chronic venous leg ulcers. Despite being underpowered, the trial revealed a statistical and clinically significant reduction in wound healing trajectories with adjunct hyperbaric oxygen. The unit published an audit of CNS oxygen toxicity nationally and variations between treatment protocols nationally. The unit also published a prospective observational cohort study of 51 patients on the effect of hyperbaric oxygen therapy in treating radiation induced xerostomia. The unit continues to be involved in the development of a national and international data registry of outcome measures. Finally, a trial investigating the reliability and accuracy of delivery of B-Braun infusion pumps and syringe drivers under hyperbaric conditions has been completed and is awaiting publication.

## Benefits for clinical practice:

The clinical outcome findings from the chronic venous leg ulcer trial have been incorporated into daily practice via the Choosing Wisely initiative. The B-Braun pumps and syringe drivers have been validated for use under hyperbaric conditions to 4 ATA. The local database will enable ongoing quality assurance programs and the national data registry will help better inform clinical decision making in the hyperbaric medicine area.

### 2018 Current RBWH Research Group / Department Led Research Activity

RBWH Research Group/ Department Lead Researchers	Collaborative Researchers	Research Project Title
Susannah Sherlock Ken Thistlethwaite	David Kramer, Adam Storey	National data registry
Susannah Sherlock		CNS toxicity, a national audit of practise

### 2018 Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Pelin Tufekci Biomedical Technology Services	Chrisley Goonawardena	The reliability and precision of B-Braun infusion pumps under hyperbaric conditions to 4 ATA

## 2018 Research Publications

### Journal Articles:

1. Hyperbaric oxygen treatment for the management of radiation-induced xerostomia. Sherlock, Susannah; Way, Mandy; Tabah, Alexis. JOURNAL OF MEDICAL IMAGING AND RADIATION ONCOLOGY; DEC 2018; 62; 6; p841-p846
2. Audit of practice in Australasian hyperbaric units on the incidence of central nervous system oxygen toxicity. Sherlock S, Way M, Tabah A. Diving Hyperb Med. 2018 Jun 30;48(2):73-78
3. The effectiveness of hyperbaric oxygen therapy for healing chronic venous leg ulcers: a randomized, double-blind, placebo-controlled trial. Thistlethwaite KR, Finlayson KJ, Cooper PD, Brown B, Bennett MH, Kay G, O'Reilly MT, Edwards HE. Wound Repair Regen. 2018 Jul;26(4):324-331 Intensive Care Services.

## Intensive Care Services

**Professor Michael Reade:** the Cryopreserved vs. Liquid Platelet (CLIP) pilot trial was completed and submitted for publication, and the subsequent CLIP-II definitive trial was funded by the NHMRC with A\$1.85 million over 4 years. This trial will establish the safety and cost-effectiveness of frozen platelets for surgical bleeding. Professor Reade was elected a Fellow of the Royal Institution of Australia.

**ICS Research team:** In March 2018 the first patient was enrolled into the BLING III study (7000 participants worldwide). Permanent positions gained for x3 research staff – previously temporary positions. Expansion of service provision including study monitoring, mentoring, medical student research facilitation, utilisation and development of REDCap data capture eCRF's, project management for multi centred collaborative research. Successful commencement of health volunteer study. Recruitment reaching 50% target required.

Professor Jeffrey Lipman was one of the nine researchers named on the 2018 Clarivate Highly Cited Researchers List. Those on the list have demonstrated significant influence by publishing multiple highly cited papers during the last decade ranking in the top one per cent by citations for a publication field and year.

Associate Prof Jeremy Cohen: Publication of the ADRENAL trial – in New England Journal of Medicine. This was a 3800-patient study of the use of corticosteroids in septic shock and is currently the largest trial of septic shock ever conducted. Jeremy Cohen was one of the Chief Investigators and authors of the paper. Subsequently this trial was voted by the NEJM Editorial Staff studies as one of the 12 most influential studies of 2018.

## Supervised Post-Graduate Research Students

Name (RBWH staff in bold)	Current Studies (e.g. PhD, Masters etc.) University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Hajar Alasmari	PhD, Queensland University of Technology (2012-2018)	Examining Intensive Care Nurses' Clinical decision-making associated with acute kidney injury and continuous renal replacement therapy in Saudi Arabia	Prof Ann Bonner, <b>Prof Fiona Coyer FM</b>
Sonia Hines	PhD, Queensland University of Technology	An educational intervention to improve nurses' research literacy	Prof Joanne Ramsbotham, <b>Prof Fiona Coyer FM,</b>
Sandra Johnston	PhD, Queensland University of Technology	Effectiveness of high fidelity simulation as a teaching tool in undergraduate nursing education	<b>Prof Fiona Coyer FM,</b> Prof Robyn Nash
<b>Lizanne Dagleish</b>	PhD, Queensland University of Technology	The role of microcirculatory dysfunction and skin breakdown in the critically ill	<b>Prof Fiona Coyer FM, Dr Jill Campbell,</b> Dr Kathy Finlayson, <b>Prof Andre VanZundert</b>
Adrianna Hada	PhD, Queensland University of Technology (2017-2021)	Transforming patient outcomes through improved and effective nursing clinical handover	<b>Prof Fiona Coyer FM,</b> Dr Leanne Jack
Paul Jarrett	PhD, Queensland University of Technology (2017-2021)	Administration of antibiotics in the intensive care unit	<b>Prof Fiona Coyer FM,</b> Prof Sam Keogh, Prof Jason Roberts
<b>Anthony Batterbury</b>	PhD, Queensland University of Technology (2018-2023)	How sick is too sick and how heavy too heavy? Quantifying the clinical acuity and dependency of ward patients whom have triggered emergency response systems in order to understand service delivery boundaries and define thresholds for escalation or resource mobilisation	<b>Prof Fiona Coyer FM,</b> Clint Douglas
Hannauh Rheault	Doctor Health Science, Queensland University of Technology (2014-2019)	Examining the health literacy and chronic disease self-management of remote Aboriginal Australians: a mixed method study	Prof Ann Bonner, <b>Prof Fiona Coyer FM</b>
Leanne Stone	Doctor Health Science, Queensland University of Technology (2014-2019)	Comparing "Magnet" attributes in nursing between Australia and the United States	<b>Prof Fiona Coyer FM,</b> Prof Ray Chan, Prof Alexandra McCarthy
<b>Bryan Gregory</b>	PhD, Queensland University of Technology (2018-2022)	The effects of continuous renal replacement therapy and sustained low-efficiency dialysis on immunosuppressive drug levels in critically ill patients with acute kidney injury	<b>Prof Fiona Coyer FM,</b> Prof Jason Roberts, Prof Ann Bonner
Jessica Ingleman	Masters of Applied Science (Research), Queensland University of Technology (2016-)	Exploring tissue reperfusion in two body positions and varied load periods in critically ill patients (EXTREME 2 pressure study)	<b>Prof Fiona Coyer FM,</b> Dr Christina Parker

## Supervised Post-Graduate Research Students (cont)

Name (RBWH staff in bold)	Current Studies (e.g. PhD, Masters etc.) University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
David McIntyre	PhD, Queensland University of Technology (2016-)	Developing and validating haemodialysis nurse-sensitive indicators	Prof Ann Bonner, <b>Prof Fiona Coyer FM</b>
Elissa Milford	PhD, UQ	Effects on the glycocalyx of resuscitation with immunomodulatory drugs and cryopreserved blood products in preclinical and clinical trauma	<b>Michael Reade</b> , John-Paul Tung
Gabrielle Simonova	PhD, UQ	Effect of storage conditions and duration on the clinical effect of platelet and red blood cell transfusion	John-Paul Tung, Melinda Dean, <b>Michael Reade</b>
Paul Lee-Archer	PhD, UQ	A randomised controlled trial of dexmedetomidine to lessen postoperative agitation in children undergoing elective surgery or radiology	<b>Michael Reade</b> , Debbie Long, Britta Regli-VonUngern
Adam Mahoney	PhD, UQ	A geospatial approach to quantitative quality assurance in trauma	<b>Michael Reade</b> , Kirsten Vallmur
<b>Anthony Holley</b>	PhD, UQ	Observational studies of critical care practice in the management of severe burns patients in Australia and New Zealand	<b>Jeremy Cohen</b> , <b>Jeff Lipman</b> , <b>Michael Reade</b>
Andrew Flint	PhD, Monash	Retrospective analysis of the effect of platelet transfusion on infection complications in critical illness	Zoe McQuilten, <b>Michael Reade</b>
Gavin Day	MPH, QUT	Does a supervisor's leadership have an effect on burnout in Army clinicians? A multivariable analysis of two validated survey instruments	<b>Michael Reade</b>
John Parr	MD, UQ	Observational study of sedation practices in severe trauma and critical illness	<b>Michael Reade</b>
Patrick Biggins	MD, UQ	Does delay to neurosurgical intervention after trauma affect outcome? If so, what (if any) delay is acceptable? Analysis of Queensland Health data	<b>Michael Reade</b> , Kirsten Vallmuur
Terrance English	MBBS, Deakin	Predictors of platelet transfusions in cardiac surgical patients	<b>Michael Reade</b> , Zoe McQuilten
<b>Jayesh Dhanani</b>	PhD UQ	Study of the disposition of nebulised tobramycin	<b>Jeremy Cohen</b>
Julie Lee	PhD UQ	Rotational Thromboelastography in Obstetrics	<b>Jeremy Cohen</b>
<b>Anthony Holey</b>	PhD UQ	Variability in Critical Care Burn Management	<b>Jeremy Cohen</b>
<b>Alexis Tabah</b>	PhD, UQ 2018-	Local and International epidemiology of Hospital Acquired Blood Stream Infections in the Critically Ill	<b>Jeffrey Lipman</b> , <b>Jason Roberts</b>
Christopher Anstey	PhD 2017-	Extramitochondrial metabolism of citrate metabolism in the critically ill	Bala Venkatesh, <b>Jason Roberts</b>
Andrew Burke	PhD 2018-	Pharmacokinetics of anti-myc drugs in patients with cystic fibrosis	<b>Jason Roberts</b> , Rachel Thomson, Scott Bell, Daniel Smith
Vesa Cheng	PhD 2018-	Optimising antibiotic dosing in critically ill patients on extracorporeal membrane oxygenation	<b>Jason Roberts</b> , Mohd Hafiz Abdul Aziz, Kiran Shekar
Tavey Dorofaeff	PhD 2016-	How to use antibiotics better in Paediatric Intensive Care using pharmacokinetic principles	Suzanne Parker, Mark Coulthard, <b>Jason Roberts</b> , <b>Jeffrey Lipman</b>
William Franks	MPhil 2017-	Pharmacokinetics of commonly used antimicrobials in lung transplant recipients	<b>Jason Roberts</b> , Mohd Hafiz Abdul Aziz, <b>Menino Cotta</b>
Yarmarly Guerra Valero	PhD 2016-	Translating microsampling techniques into better antibiotic dosing for critically ill children	Suzanne Parker, <b>Jason Roberts</b> , Steven Wallis, <b>Jeffrey Lipman</b>
<b>Nilesh Kumta</b>	PhD 2017-	Optimising antibiotic dosing for the treatment and prevention of central nervous system infections	<b>Jeffrey Lipman</b> , <b>Jason Roberts</b>
<b>Rochelle Ryan</b>	PhD 2018-	Perioperative pharmacokinetics of surgical antibiotic prophylaxis	<b>Jason Roberts</b> , <b>Adrien Van Zundert</b> , <b>Jeffrey Lipman</b> , <b>Hildegard Wyssusek</b>



## Supervised Post-Graduate Research Students (cont)

Name (RBWH staff in bold)	Current Studies (e.g. PhD, Masters etc.) University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Eko Setiawan	PhD 2018-	Strategies to Improve the Use of Antimicrobials in Hospitalized Indonesian Patients	<b>Jason Roberts, Menino Cotta, Jeffrey Lipman,</b>
<b>Angela Tognolini</b>	MPhil 2018-	Intraoperative lignocaine infusions: development of an optimised infusion dosing regimen for obese patients	<b>Victoria Eley, Jason Roberts</b>
Paul Williams	PhD 2018-	What is the validity of altered dosing approaches for ensuring appropriate antibiotic dosing in the critically ill?	<b>Jason Roberts, Menino Cotta</b>
Gloria Wong	PhD 2012-	A pharmacokinetic-pharmacodynamic evaluation of beta-lactam antibiotics TDM guided dose adjustment in critically ill patients	<b>Jason Roberts, Jeffrey Lipman</b>
Sazlyna Lim	PhD 2018-	In Vitro Evaluation of Antimicrobials Used for Treatment of Carbapenem-Resistant Enterobacteriaceae Infections	<b>Jason Roberts, Fekade Sime</b>
Kamrul Islam	PhD 2018-	Optimising antibiotic dosing for resistant infections	<b>Jason Roberts, Fekade Sime</b>
Helmi Sulaiman	PhD 2017-		<b>Jason Roberts</b>
Chandra Sumi	PhD 2016-	Optimization of alternative antibiotic dosing regimens for maximal antibacterial activity and suppression of emergence of resistance	<b>Jason Roberts, Fekade Sime</b>
Saiyuri Naicker	PhD 2017-	The microbiological effects of antimicrobial deescalation: an in-vitro evaluation in a dynamic infection model	<b>Jason Roberts, Fekade Sime, Suzanne Parker</b>
Aun Raza	PhD 2018-	Can TLR4 active metabolites of drugs administered to cancer surgery patient improve long term cancer outcomes	James Falconer, Peter Cabot, Fekade Sime, <b>Jason Roberts</b>
<b>Timothy Sladden</b>	PhD 2014-	The role of endothelial glycocalyx breakdown in human lung transplantation and the establishment of a porcine model to study mechanisms and evaluate therapeutic interventions	Dan Chambers, Stephanie Yerkovich, Jeffrey Lipman, Jonathan Hill
<b>Kersi Taraporewalla</b>	PhD 2017-	Teaching Psycho-Motor Skills in Anaesthesia	<b>Andre van Zundert, Jeffrey Lipman</b>
Martha Druery	PhD 2014-	Psychosocial outcomes post severe burn injuries in adults – an exploratory study	Peter Newcombe, Catherine Cameron, <b>Jeffrey Lipman</b>
Martha Druery	PhD 2014-	Psychosocial outcomes post severe burn injuries in adults – an exploratory study	Peter Newcombe, Catherine Cameron, <b>Jeffrey Lipman</b>
Caleb Economou,	PhD 2012-	The pharmacokinetics of vancomycin, meropenem and ticarcillin in critically ill patients undergoing prolonged intermittent renal replacement therapy	<b>Jason Roberts, Jeffrey Lipman, Brent Richards</b>
<b>Bryan Gregory</b>	MPhil 2016-		<b>Fiona Coyer, Jason Roberts</b>
Jawana Alawie	Hons 2018-		<b>Jason Roberts</b>
Joash Tan	Hons 2018-		<b>Jason Roberts</b>

## 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions

Name	Type of Fellowship	Research Program	University (years)
Jessica Ingleman	Project Manager	The effect of time spent in a position on critically ill patient's skin: the EXTREME pressure 2 study. Extreme pressure study: exploring pressures, tissue reperfusion and body positioning – a pilot evaluation among critically ill patients.	QUT (2014-2018)
Jane-Louise Cook	Project Manager	Efficacy of nasogastric and endotracheal tube securement devices, preventative dressings and topical skin applications for reducing device-related pressure injuries in intensive care patients; the REMEDY study, a randomised controlled trial. Translating evidenced-based pressure injury prevention into the intensive care environment: the SUSTAIN trial	QUT (2014-2018)
Anna Doubrovsky	Project Manager	Efficacy of Incontinence-Associated Dermatitis interventions for critically ill patients in intensive care; the Distinct pilot randomised control trial	QUT (2016-2018)
<b>Fiona Coyer FM</b>	Visiting Professor	Institute for skin integrity and infection prevention	University of Huddersfield (2016–present)

## 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions (cont)

Name	Type of Fellowship	Research Program	University (years)
David Liu	Postdoctoral Research Fellowship	Clinical trials in critical illness (Supervisor: M. Reade)	UQ
Jeremy Cohen	Honorary Professorial Fellow		The George Institute
Jason Roberts	NHMRC Practitioner Fellowship	Redefining antibiotic dosing to reduce bacterial resistance	UQ (2017-2021)
Jason Roberts	Honorary Professor	Redefining antibiotic dosing to reduce bacterial resistance	The University of Liverpool 2014–present
Jeffrey Lipman	Adjunct Professor	Infectious Diseases	Queensland University of Technology, 2010–present
Jeffrey Lipman	Adjunct Professor	Beta-Lactam dosing in critically ill patients	Chinese University of Hong Kong, 2012–present
Jeffrey Lipman	Adjunct Professor	Beta-Lactam dosing in critically ill patients	University of NSW, 2016–present
Jeffrey Lipman	Honorary Professorial Research Fellow	Beta-Lactam dosing in critically ill patients	University of the Witwatersrand, 2016–present

## 2018 Current RBWH Research Group / Department Led Research Activity

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
Prof Fiona Coyer FM (Nursing Research and Critical Care)	Jill Campbell (Skin Integrity)	Efficacy of incontinence-associated dermatitis interventions for critically ill patients in intensive care; the Distinct pilot randomised control trial
Prof Fiona Coyer FM (Nursing Research and Critical Care)	Tony Parker (QUT), Jill Campbell (Skin Integrity), Anna Doubrovsky (QUT)	BiocheMical characteristics and hEaling rates of medical device-related pressure Injuries (the MEDICI study); a prospective observational pilot study
Prof Fiona Coyer FM (Nursing Research)	Stacey Watts (Intensive Care Unit), Jayesh Dhanani (Intensive Care Unit), Samantha Keogh (QUT)	Intensive care point of care testing for arterial gas analyses: The INCEPT audit
Michael Reade	Michael Reade, Anthony Holley, 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)
Michael Reade	McCalman J, Kippen R, Reade MC, Shanks D, Hopper D.	Diggers to Veterans: risk, resilience and recovery in the First AIF
Michael Reade	Gruen R, Mitra B, Bernard S, Jacobs I, Medcalf R, Reade MC, Tran H.	Prehospital Antifibrinolytics for Traumatic, Coagulopathy associated with Haemorrhage (The PATCH Study)
Michael Reade	Shehabi Y, Bellomo R, Reade M, Seppelt I, McArthur C, Bailey M, Howe B.	The Australasian Sedation Practice in Intensive Care Evaluation (SPICE) Randomised Controlled Trial
Jeffrey Lipman	Dulhunty J, Roberts J, Cotta	A phase III randomised controlled trial of continuous beta-lactam infusion compared with intermittent beta-lactam dosing in critically ill patients
Jason Roberts	Cotta, Roberts J	Optimising ceftriaxone dosing for critically ill patients with severe pneumonia
Jason Roberts, Jeffrey Lipman	Roberts J, Lipman J	An Observational Pharmacokinetic study of Ceftolozane-Tazobactam in Intensive Care Unit in patients with and without continuous renal replacement therapy
Jason Roberts, Jeffrey Lipman	Roberts J, Lipman J	A prospective observational pharmacokinetic evaluation of the plasma and cerebrospinal fluid concentrations of a single dose ceftolozane/tazobactam in infected critically ill patients with an indwelling external ventricular drain
O'Donoghue/Roach	Pang G, Pincus J	An Observational Study to assess aspiration risk using gastric ultrasound in ventilated ICU patients prior to extubation
Jeremy Cohen, David Lui	Cohen J, Lui D	Pharmacokinetics of Transdermal Nicotine replacement therapy patches in the ICU: a prospective observational pharmacokinetic study of nicotine/cotinine concentrations in critically ill smokers receiving transdermal NRT patches

## 2018 Current RBWH Research Group / Department Led Research Activity (cont)

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
Jason Roberts/Kumta	Kumta N, J Lipman	The Pharmacokinetics of Ceftriaxone, Meropenem, Piperacillin-Tazobactam and Vancomycin in the Cerebrospinal Fluid of Critically Ill Patients with Uninflamed Meninges
Michael Reade, Cheryl Fourie	Reade M, Fourie C	International prospective observational Study on iNtrAcranial PreSsurE in intensive care (ICU)
Jeffrey Lipman/ Thomas	Lipman J	A Potential Taste Receptor Association with Myocardial Depression Susceptibility in Treated sEpsis
Jeremy Cohen	Cohen J	A Comparison of the Total and Free Cortisol Response to a Standard Short Synacthen Test in Patients with Traumatic Brain Injury
Chu	Chu	Timing of Lumbar puncture for the selection of xanthochromia in subarachnoid haemorrhage
Judith Bellapart	Bellapart J	The prognostication value of plasma Endothelin-1 in sub arachnoid Haemorrhage
Jason Roberts	Cotta, Roberts J	Levetiracetam pharmacokinetics in critically ill patients with severe traumatic brain injury and subarachnoid haemorrhage
Jeremy Cohen	Cohen J	A prospective multicentre observational study of aneurysmal subarachnoid haemorrhage in Australasian intensive care The PROMOTE-SAH Study
Denny	Lipman, J / Denny	Recognising Sepsis in SIRS Trial (RESIST)
Jeremy Cohen	Bala Venkatesh, David Evans, Simon Finfer, John Myburgh, Manoj Saxena, Jacobus Ungerer, Carol Pretorius, Brett McWhinny, David Liu, John Moore	Free Cortisol, Aldosterone and Vitamin C in Septic Shock

## 2018 Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Rachael Bailey (Caboolture Hospital, ICU)	Alexis Tabah (Redcliffe Hospital, ICU), Manesh Ramanen (Redcliffe Hospital, ICU), <b>Prof Fiona Coyer FM (Nursing Research and ICU)</b>	Survey of family visiting in ICU – WELCOME – ICU Study
Kate Kynoch (Mater Hospital)	<b>Prof Fiona Coyer FM (Nursing Research and ICU)</b> , Marian Mitchell (PAH/GU), Gary Von Dohren (Redcliffe Hospital, ICU)	IVES family visiting study
Kathleen Finlayson (QUT)	Helen Edwards (QUT), <b>Prof Fiona Coyer FM (Nursing Research)</b>	Validity of laser speckle contrast imaging for assessment of superficial perfusion in the lower limb of patients with vascular leg and foot ulcers
Stijn Blot (Ghent Uni Belgium)	Sonia Labeau (Ghent Uni Belgium), <b>Prof Fiona Coyer FM (Nursing Research)</b> , Wendy Chaboyer (Griffith), Frances Lin (Griffith)	DecubICUs one-day point-prevalence study on pressure injuries in ICUs
Helen Edwards (QUT)	Kerrie Coleman (Skin Integrity), Patricia Sinasac (TPCH), Kathleen Finlayson (QUT), <b>Prof Fiona Coyer FM (Nursing Research)</b> , Christina Parker (QUT), Jessica Schluter (TPCH)	Reducing the prevalence and severity of wounds through implementation of the Champions for Skin Integrity Model – Protecting Skin Integrity (PSI)
Walsh T, McKenzie C, Lone N, Aitkin L, Parker R, Kydonaki C, <b>Reade MC</b> , Dark P, Gordon A, Morris S, McAuley D, Weir C, Blackwood B, Page V, Perkins G.	<b>Michael Reade (RBWH)</b>	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
Winearls	<b>Anthony Holley (RBWH)</b>	Fibrinogen Concentrate vs. Cryoprecipitate
Monash University	<b>Michael Reade (RBWH), Anthony Holley (RBWH)</b>	Pre-hospital Anti-fibrinolytics for Traumatic Coagulopathy and Haemorrhage (The PATCH Study) A multi-centre randomised, double-blind, placebo-controlled trial of pre-hospital treatment with tranexamic acid for severely injured patients at risk of acute traumatic coagulopathy

## 2018 Collaborative Research Activity involving RBWH Research Group / Department (cont)

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
The George Institute	<b>Jeffrey Lipman (RBWH)</b>	A multi-centre, blinded, randomised, controlled trial (RCT) to determine whether fluid resuscitation and therapy with a “balanced” crystalloid solution (Plasma-Lyte 148®) decreases 90-day mortality in critically ill patients requiring fluid resuscitation when compared to the same treatment with 0.9% sodium chloride (saline)
Rogers, C	<b>Jason Roberts (RBWH), Jeffrey Lipman (RBWH)</b>	Screening Anti-Fungal Exposure in Intensive Care Units The SAFE-ICU Study An international, multi-centre prospective pharmacokinetic evaluation of antifungal drug exposure in intensive care unit patients receiving conventional dosing regimens
Eastwood, G	<b>Michael Reade (RBWH)</b>	Targeted Therapeutic Mild Hypercapnia After Resuscitated Cardiac Arrest A Phase III Multi-Centre Randomised Controlled Trial
Merck	<b>Jeffrey Lipman (RBWH), John Gowardman (RBWH)</b>	A Phase III, Randomized, Double-Blind, Active Comparator-Controlled Clinical Trial to Study the Safety, Tolerability, and Efficacy of Imipenem/Cilastatin/Relebactam (MK-7655A) Versus Piperacillin/Tazobactam in Subjects with Hospital-Acquired Bacterial Pneumonia or Ventilator-Associated Bacterial Pneumonia
Chapman, A	<b>Neil Widdecombe (RBWH)</b>	Validation of a 10-minute spontaneous breathing trial to predict time to circulatory death in organ donation candidates
AKPA – Asahikasei	<b>John Gowardman (RBWH)</b>	A randomized, double-blind, placebo-controlled, phase 3 study to assess the safety and efficacy of ART-123 in subjects with severe sepsis and coagulopathy
Kwok Ho	<b>Anthony Holley (RBWH)</b>	Detailed assessment of risks and benefits of inferior vena cava filters on patients with complicated injuries (the da Vinci Trial)
Koulenti, D	<b>Jeffrey Lipman (RBWH)</b>	International Study on Nosocomial Pneumonia in Intensive Care. An international multi-centre prospective observational cohort study of nosocomial pneumonia in intensive care units
Monash University	<b>O'Donoghue</b>	Early Goal Directed Sedation vs. Standard Care Sedation Sedation Practices in Intensive Care Evaluation: SPICE III: A Prospective Multicentre Randomised Controlled Trial of Early Goal Directed Sedation Compared with Standard Care in Mechanically Ventilated Patients in Intensive Care
Paterson/Harris/ Schlebusch/	<b>Jeffrey Lipman (RBWH)</b>	Assessing the effects of antibiotic choice on gut microbiota of ICU pts – a metagenomic approach
Bala Venkatesh	<b>Jeremy Cohen (RBWH)</b>	Vascular Responsiveness in Shock
David Evans	<b>Jeremy Cohen (RBWH)</b>	Gene Expression in Septic Shock
Antje Blumenthal	<b>Jeremy Cohen (RBWH)</b>	WNT Expression in Sepsis

## 2018 Research Awards and Achievements

Recipient	Award	Event
<b>Prof Fiona Coyer FM (Nursing Research/ Intensive Care Services)</b>	Vice-Chancellor’s Award for Excellence	2018 Vice-Chancellor’s Award for Excellence ceremony, Queensland University of Technology, 20 July 2018
<b>Michael Reade</b>	Best Military-Academic Collaboration (Frozen platelet trial)	United States Military Health Symposium
<b>Michael Reade</b>	Elected a Bragg Fellow, Royal Institution of Australia	
<b>Jeffrey Lipman</b>	2018 Warwick Parer Award for outstanding contribution to RBWH Medical Research	RBWH and RBWH Foundation Awards 2018

## 2018 Research Grants – Awarded

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups/Departments	Project Title	Granting Body	Amount in 2018	Total Amount <i>(years)</i>
<b>Bryan Gregory, Dwarakanathan Ranganathan, Fiona Coyer FM</b>	Renal Medicine, Nursing and Midwifery Research Centre, Department of Intensive Care Services	The effects of renal replacement therapy on immunosuppressive drug concentrations	Royal Brisbane and Women's Hospital Foundation	\$20,000	\$40,000 (2018-2019)
<b>Jill Campbell, Judith Eddy, Andrea Garrett, Kerri Coleman, Maree Grier, Cara Masterson, Fiona Coyer FM</b>	Skin Integrity, Gynaecology Department, Gynaecology Oncology Department, Psychology Department, Physiotherapy Department, Nursing & Midwifery Research Centre	A multidisciplinary pre-operative optimisation care bundle for women undergoing vulval surgery; a feasibility study	Royal Brisbane and Women's Hospital Foundation	\$13,332.66	\$39,998 (2017-2019)
Kathleen Finlayson, Helen Edwards, <b>Fiona Coyer FM</b>	Critical Care and Clinical Support Services	Validity of laser speckle contrast imaging for assessment of superficial perfusion in the lower limb of patients with vascular leg and foot ulcers	QUT Institute of Health and Biomedical Innovation Mid-Career Research Grant	\$9,554	\$9,554 (2018)
<b>Fiona Coyer FM, Tony Parker, Jill Campbell, Anna Doubrovsky</b>	Nursing and Midwifery Research Centre, Critical Care and Clinical Support Services, Skin Integrity Services, Queensland University of Technology	Biochemical characteristics and healing rates of medical device-related pressure injuries (the MEDICI study); a prospective observational pilot study	Queensland University of Technology, School of Nursing Pilot Grant	\$30,000	\$30,000 (2018)
<b>Fiona Coyer FM, Stacey Watts, Jayesh Dhani, Samantha Keogh</b>	Nursing and Midwifery Research Centre, Critical Care and Clinical Support Services, Queensland University of Technology	Intensive care point of care testing for arterial gas analyses: the INCEPT audit	Queensland University of Technology, New Professor Grant	\$25,000	\$25,000 (2018)
<b>Liu D, Pincus J, Hallt E, Reade MC</b>	Michael Reade / Intensive Care	Clonidine at Low dose postoperatively to Nocturnally Enhance Sleep (CLONES) phase II pilot trial	RBWH Foundation	\$45,000	\$45,000 (2018)
<b>Therese Starr</b>	Intensive Care Services	Equipment request – centrifuge	Private Practice fund	\$9,222.40	\$9,222.40 (2018)
Wainwright C, <b>Scott Bell</b> , Wason J, Thomson R, <b>Jason Roberts</b> , Coin L, Byrnes J, Tiddens H, Grimwood K, Ahern S	Intensive Care Services	A platform clinical trial approach to the management of Mycobacterium abscessus complex	Medical Research Futures Fund Lifting Clinical Trials and Registries Capacity (LCTRC) grant	\$418,236	\$2,091,178 (2018-2022)
Raby E, Manning L, <b>Jason Roberts</b>	Intensive Care Services	An in vitro study of the stability of ceftolozane-tazobactam in elastomeric infusor devices for ambulatory care	Merck Sharp and Dohme Australia	\$48,382.20	\$48,382.20 (2018-2019)
Reed S, <b>Jeffrey Lipman, Roberts JA, David Paterson</b> , McCombe P, Wallis S	Intensive Care Services	Ion Mobility Separation of challenging clinical samples	University of Queensland Major Equipment and Infrastructure and NHMRC Equipment Grant	\$84,983	\$84,983 (2018-2019)
<b>Jason Roberts</b> , Dorofaeff T, Parker S	Intensive Care Services	Advanced treatment of infectious diseases for critically ill children, through innovation in blood sampling	Children's Hospital Foundation Preclinical and Clinical Research Grant	\$86,215	\$295,445 (2018-2019)
Blaskovich M, Cooper M, Hansford K, <b>Jason Roberts, David Paterson</b>	Intensive Care Services	Lipopeptide antibiotics for XDR Gram-negative infections	NHMRC Development Grant	\$331,632	\$994,897.15 (2018-2020)

## 2018 Research Grants – Awarded (cont)

Investigators (RBWH staff in bold)	RBWH Research Groups/Departments	Project Title	Granting Body	Amount in 2018	Total Amount (years)
<b>Kevin Chu, Judith Bellapart</b> , Winter C, Jeffree R, <b>Jeffrey Lipman, Jacobus Ungerer</b> , Pelecanos A, <b>Nathan Brown, Anthony Brown</b>	Intensive Care Services	Timing of lumbar puncture for the detection of xanthochromia in subarachnoid haemorrhage	RBWH and RBWH Foundation	\$39,978.43	\$39,978.43 (2018-2019)
Liu D, <b>Michael Reade, Jason Pincus</b> , Hallt E	Intensive Care Services	Clonidine at Low dosage postOperatively to Nocturnally Enhance Sleep (CLONES)	RBWH and RBWH Foundation	\$30,097.38	\$30,097.38 (2018-2019)

## 2018 Research Publications

### Journal Articles:

1. Kumta N, **Coyer FM F**, David M. Perioperative factors and pressure ulcer development in postoperative ICU patients: a retrospective review. *Journal of Wound Care*. 2018. 27(8):475-485
2. Kynoch K, Chang A, **Coyer FM F**, McArdle A. Developing a model of factors that influence meeting the needs of family with a relative in ICU. 2018. *Int J Nurs Pract*. 8: e12693
3. Chaboyer WP, Thalib L, Harbeck EL, **Coyer FM F**, Blot S, Bull CF, Nogheira PC, Lin FF. Incidence and prevalence of pressure injuries in adult intensive care patients: a systematic review and meta-analysis. *Critical Care Medicine*. 2018. Doi: 10.1097/CCM
4. Beeckman D, Van den Bussche K, Alves P, Arnold Long MC, Beele H, Ciprandi G, **Coyer FM F**, de Groot T, De Meyer D, Deschepper E, Dunk AM, Fourie A, Garcia-Molina P, Gray M, Iblasi A, Jelnes R, Johansen E, Karadağ A, Leblanc K, Kis Dadara Z, Meaume S, Pokorna A, Romanelli M, Ruppert S, Schoonhoven L, Smet S, Smith C, Steining A, Stockmayr M, Van Damme N, Voegeli D, Van Hecke A, Verhaeghe S, Woo K & Kottner J. Towards an international language for Incontinence-Associated Dermatitis (IAD): design and evaluation of psychometric properties of the Ghent Global IAD Categorisation Tool (GLOBIAD) in 30 countries. *British Journal of Dermatology*. 2018. doi:10.1111/bjd.16327
5. **Coyer FM F**, Cook J-L, Doubrovsky A, Campbell J, **Vann A**, McNamara G. Understanding contextual barriers and enablers to pressure injury prevention practice in an Australian intensive care unit: an exploratory study. *Australian Critical Care*. <https://doi.org/10.1016/j.aucc.2018.02.008>
6. Johnson S, Fox A, **Coyer FM F**. Factors influencing nursing student off campus clinical performance: a retrospective audit study. *Journal of Nursing Education*. 2018; 57(6): 333-338
7. **Coyer FM F**, Campbell J. Incontinence-associated dermatitis in the critically ill patient: an intensive care perspective. *Nursing in Critical Care*. 2018; 23(4): 198-206
8. Johnson S, **Coyer FM F**, Nash R. Kirkpatrick's Evaluation of Simulation and Debriefing in Health Care Education: a Systematic Review. *Journal of Nursing Education*. 2018;57(7):393-398
9. Barakat-Johnson M, Lai M, Gefen A, **Coyer FM F**. Evaluation of a fluidised positioner to reduce occipital pressure injuries in intensive care patients: a pilot study. *International Wound Journal*. 2018. <https://doi.org/10.1111/iwj.13051>
10. Fullbrook P, Miles S, **Coyer FM F**. Prevalence of pressure injury in adults presenting to the emergency department by ambulance. *Australian Critical Care*. 2018. <https://doi.org/10.1016/j.aucc.2018.10.002>
11. Hughes JA, Cabilan CJ, Williams J, Ray M, **Coyer FM F**. The effectiveness of interventions to reduce peripheral blood culture contamination in acute care: a systematic review protocol. *BMC Systematic Reviews*. 2018. <https://doi.org/10.1186/s13643-018-0877-4>
12. **Reade MC** & Liu D. Optimising sleep in the ICU. *ICU Management*, 3-2018, 200-204
13. Cap AP, Pidcoke HF, et al. incl. **Reade MC**. Damage Control Resuscitation. *Military Medicine*, 2018; 183 (Suppl. 2): 36-43
14. Cap AP, Beckett A, et al. incl. **Reade MC**. Whole Blood Transfusion. *Military Medicine*, 2018; 183 (Suppl. 2): 44-51
15. Cap AP, Badloe J, et al. incl. **Reade MC**. The use of frozen and deglycerolized red blood cells. *Military Medicine*, 2018; 183 (Suppl. 2): 52-54
16. Zhu R, Allingstrup MJ, Perner A, Doig GS; Nephro-Protective Trial Investigators Group (incl. **Reade MC**). The Effect of IV Amino Acid Supplementation on Mortality in ICU Patients May Be Dependent on Kidney Function: post Hoc Subgroup Analyses of a Multicenter Randomized Trial. *Critical Care Medicine*, 2018; 46(8): 1293-1301
17. Shackelford S, del Junco D, **Reade MC**, Bell R, Becker T, Gurney J, McCafferty R, Marion D. Association of time to craniectomy with survival in combat casualties. *Neurosurgical Focus*, in press, accepted 13 Sep 18
18. **Widdicombe N & Reade MC**. Did epinephrine increase the number of organ donors after cardiac arrest? *New England Journal of Medicine*, in press, accepted 01 DEC 18
19. Rosenfeld JV, Mitra B, Smit DeV, Fitzgerald M, Butson B, Stephenson M, **Reade MC**. Preparedness for treating victims of terrorist attacks in Australia – learning from recent military experience. *Emergency Medicine Australasia*, 2018; May 9. doi: 10.1111/1742-6723.13091
20. Marks DC, Johnson L, **Reade MC**. A clinical trial of frozen platelets: rationale, protocol and pilot analysis plan. *ISBT Science Series*, 2018; 10.1111/voxs.12406 (publish ahead of print 22 JAN 18)
21. Woolley T, Strandenes G, et al. incl. **Reade MC**. Trauma Hemostasis and Oxygenation Research (THOR) Network position paper on the role of hypotensive resuscitation as part of remote damage control resuscitation. *Journal of Trauma and Acute Care Surgery*, 2018; 84(6), S3-S13

### Journal Articles: (cont):

22. Blazak P, Presneill J, Reade MC. Early repeat computed tomographic imaging in transferred trauma and neurosurgical patients: incidence, indications and impact. *Journal of Medical Imaging and Radiation Oncology*, 2018; Feb 5. doi: 10.1111/1754-9485.12711. [Epub ahead of print]
23. Lee-Archer P, McBride C, Paterson R, Reade M, Regli-von Ungern Sternberg B, Long D. Does dexmedetomidine given as a premedication or intraoperatively reduce post-hospitalisation behaviour change in children? A study protocol for a randomised controlled trial in a tertiary paediatric hospital. *BMJ Open*, 2018; 8(4): e019915
24. Vickers ML, Coorey CP, Milinovich GJ, Eriksson L, Assoum M, Reade MC. Bibliometric analysis of military trauma publications: 2000–2016. *Journal of the Royal Army Medical Corps*, 2018; 164(3): 142-149
25. Dhanani J, Barnett A, Lipman J, Reade MC. Strategies to reduce inappropriate laboratory blood test orders in intensive care are effective and safe: a before-and-after quality improvement study. *Anaesthesia and Intensive Care*, 2018; 46(3): 313-320
26. Reade MC. Cultural influences on the rates, acceptability and utility of advance care directives. *Anaesthesia Critical Care & Pain Medicine*, 2018; 37(2): 101-103
27. Udy AA, Jarrett P, Lassig-Smith M, Stuart J, Starr T, Dunlop R, Deans R, Roberts JA, Senthuran S, Boots R, Bisht K, Bulmer AC, Lipman J. Augmented Renal Clearance in Traumatic Brain Injury: a Single-Center Observational Study of Atrial Natriuretic Peptide, Cardiac Output, and Creatinine Clearance. *J Neurotrauma*. 2017 Jan 1;34(1):137-144
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115. Paul SK, **Roberts JA, Lipman J**, Deans R, Samanta M. A Robust Statistical Approach to Analyse Population Pharmacokinetic Data in Critically Ill Patients with Renal Impairment. *Clin Pharmacokinet* 2018; in press (date accepted June 6<sup>th</sup>, 2018; CPKA-D-17-00099)

### Journal Articles (cont):

116. **Dhanani J, Cohen J**, Parker SL, Chan HK, Tang P, Ahern BJ, Khan A, Bhatt M, Goodman S, Diab S, Chaudhary J, **Lipman J**, Wallis SC, Barnett A, Chew M, Fraser JF, **Roberts JA**. A research pathway for the study of the delivery and disposition of nebulized antibiotics: an incremental approach from in vitro to large animal models. *Intensive Care Med* 2018; 6(1):17
117. Jamal JA, Roger C, **Roberts JA**. Understanding the impact of pathophysiological alterations during critical illness on drug pharmacokinetics. *Anaesth Crit Care Pain Med* 2018; 515-7
118. Toulouse E, Maseguin C, Lafont B, McGurk G, Harbonn A, **Roberts JA**, Granier S, Dupeyron A, Bazin JE. French legal approach to clinical research. *Anaesth Crit Care Pain Med* 2018; 607-14
119. Stewart A, **Roberts JA**, Wallis SC; Allworth AM, Legg A, McCarthy KL. Evidence of clinical response and stability of ceftolozane/tazobactam used to treat a carbapenem-resistant *Pseudomonas aeruginosa* lung abscess on an outpatient antimicrobial program. *Int J Antimicrob Agents* 2018; 51: 941-942
120. Rhodes NJ, Liu J, **Lipman J, Roberts JA**. Author response to: piperacillin-tazobactam: extended infusion vs continuous infusion. *Crit Care Med* 2018; 46(7): e725-e726
121. **Roberts JA**. Beta-lactam therapeutic drug monitoring in the critically ill children: big solution for infections in small people? *Crit Care Med* 2018; 46(2):335-337
122. Dahyot-Fizelier C, Marchand S, **Lipman J**. Is augmented renal clearance the Holy Grail of antibiotic therapy failure in ventilator-acquired pneumonia? *Anaesth Crit Care Pain Med* 2018; 37: 5-6
123. Williams JM, Greenslade JH, Dymond CA, Chu K, Brown AF, **Lipman J**. Characteristics, treatment and outcomes for all emergency department patients fulfilling criteria for septic shock: a prospective observational study. *Eur J Emerg Med* 2018; 25: 97-104
124. **Dhanani J**, Barnett A, **Lipman J, Reade MC**. Strategies to reduce inappropriate laboratory blood test orders in intensive care are effective and safe: A before-and-after quality improvement study. *Anaesth Intens Care* 2018; 46: 313-320
125. McCullough J, **Lipman J**, Presneill J. The statistical curriculum within randomized controlled trials in critical illness. *Crit Care Med* 2018; 46: 1985-1990.

### Book Chapters / Letters:

1. **Reade MC**, White JO, Bleeker C. Trauma Critical Care. In: *Manual of the Definitive Surgery in Trauma Care, 5<sup>th</sup> edition*. Boffard K, ed. Boca Raton: CRC Press, in press, accepted 26 Oct 18
2. **Reade MC**, Bleeker C. Military anaesthesia. In: *Manual of the Definitive Surgery in Trauma Care, 5<sup>th</sup> edition*. Boffard K, ed. Boca Raton: CRC Press, in press, accepted 02 Aug 18
3. Milford EM & Reade MC. Resuscitation fluid choices to preserve the endothelial glycocalyx. In: annual Update in Intensive Care and Emergency Medicine 2019. Berlin: Springer-Verlag, in press, accepted 10 Sep 18
4. Reade MC, Rosenfeld J. Triage. In: *Disaster neurosurgery*. AO foundation, Davos, 2018
5. **Liu D, Reade MC**. Central alpha-2 adrenoceptor agonists in intensive care. In: *Annual Update in Intensive Care and Emergency Medicine 2018*. Berlin: Springer-Verlag, in press, accepted 11 Sep 17.

## 2018 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speaker:

1. Campbell J, Coleman K, Hocking K, **Coyer FM F**. Lack of recognition and treatment of pain for people with incontinence-associated dermatitis: A call for action. Wounds Australia National Conference. Adelaide, Australia. October 2018
2. **Coyer FM F**. Efficacy of Incontinence-Associated Dermatitis interventions for critically ill patients in intensive care: the Distinct pilot RCTI. Wounds Australia National Conference. Adelaide, Australia. October 2018
3. Chaboyer W, Thalib L, Harbeck E, **Coyer FM F**, Blot S, Bull C, Nogueira P and Lin F. Incidence and prevalence of pressure injuries in adult intensive care patients: A systematic review and meta-analysis. Australian and New Zealand Annual Scientific Meeting on Intensive Care. Adelaide, Australia. October 2018. Best nursing free paper (\$1,500)
4. **Coyer FM F**. Reducing intensive care medical device-related pressure injuries caused by nasogastric and endotracheal tubes: a pilot study. 20th Annual Meeting of the European Pressure Ulcer Advisory Panel. Rome, Italy. 12-14 September 2018
5. **Coyer FM F**. How to build nursing research in ICU. Queensland Critical Care Research Forum, Sunshine Coast, Australia. May 2018
6. **Reade MC**. Should benzodiazepines be abandoned in the ICU? *34<sup>th</sup> World Congress of Internal Medicine, Cape Town, 2018*
7. **Reade MC**. How to improve sleep quality in the ICU? *34<sup>th</sup> World Congress of Internal Medicine, Cape Town, 2018*
8. **Reade MC**. Prevention and management of delirium. *Australian Commission on Safety and Quality in Health Care webinar series: Caring for Cognitive Impairment*. September 2018. <https://www.youtube.com/watch?v=z7XocVITrpk>
9. **Reade MC**. Fibrinogen Concentrate and Viscoelastic Testing – Targeting the Essence of Trauma Coagulopathy, or an Unholy Alliance? *Australian and New Zealand Intensive Care Society Annual Scientific Meeting, Adelaide, 2018*
10. **Reade MC**. Cryopreserved platelets – how far forward? *Australian Tactical Medical Association conference, Brisbane, 2018*
11. **Reade MC**. Treating Acute Traumatic Coagulopathy in the austere or prehospital environment. *Blood conference (combined Annual Scientific Meeting of the Haematology Society of Australia and New Zealand, Australian and New Zealand Society of Blood Transfusion, and the Thrombosis and Haemostasis Society of Australia and New Zealand), Brisbane, 2018*

### Invited Speaker: (cont):

12. Marks DC, Johnson L, **Reade MC**. Cold stored and cryopreserved platelets. *Blood conference (combined Annual Scientific Meeting of the Haematology Society of Australia and New Zealand, Australian and New Zealand Society of Blood Transfusion, and the Thrombosis and Haemostasis Society of Australia and New Zealand)*, Brisbane, 2018
13. **Reade MC**. Military trauma: what might not translate into civilian practice? *Australasian Trauma Society annual scientific meeting*, Perth, 2018
14. **Reade MC**. Nerve agents: an update. *Australasian Trauma Society annual scientific meeting*, Perth, 2018
15. **Reade MC**. Frozen platelets: current practice, evidence, evidence gaps and clinical research programs underway. *International Society of Blood Transfusion Annual Meeting*, Toronto, 2018
16. **Reade MC**. Australian combat casualty care research. The Technical Co-operation Program – Technical Panel 22 (Military Medicine) annual meeting, Ottawa, 2018. **Reade MC**. Should benzodiazepines be abandoned in the ICU? *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018
17. **Reade MC**. The golden hour is fool's gold – so what trauma metric should we use? *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018
18. **Reade MC**. We need to co-enrol patients in trials. *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018
19. **Reade MC**. Chemical warfare. *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018
20. **Reade MC**. The SOSP phases of fluid management: salvage. *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018
21. **Reade MC**. Military contributions to modern trauma, emergency and critical care medicine. *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018. (invited conference opening plenary session)
22. **Reade MC**. Military trauma registries are more than informative. *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018
23. **Reade MC**. Lyophilised plasma and other new resuscitation options. *38<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine*, Brussels, 2018
24. **Reade MC**. The SYNAPSE observational study of intracranial pressure monitoring. *ANZICS Clinical Trials Group Annual Meeting on Clinical Trials in Intensive Care*, Noosa, 2018
25. **Reade MC**. Replacing the NATO 10:1:2 trauma metric with a 1:1 goal. *Queensland Trauma Symposium*, Brisbane, 2018
26. **Reade MC**. Clinical research is possible virtually anywhere – even during a war. *Australian Academy of Health and Medical Sciences Clinical Science Symposium*, Brisbane, 2018
27. **Roberts JA**. “Population PK – an introduction”. Antimicrobial Pharmacokinetic-Pharmacodynamics (PKPD) Workshop, Kuala Lumpur, Malaysia, September 2018
28. **Roberts JA**. “Therapeutic Drug Monitoring of beta-lactams in ICU – is this ready for prime time?” Antimicrobial Pharmacokinetic-Pharmacodynamics (PKPD) Workshop, Kuala Lumpur, Malaysia, September 2018
29. **Roberts JA**. “Antibiotic dosing and optimization”. Antibiotic Masterclass, University of Malaya, Kuala Lumpur, Malaysia, September 2018
30. **Roberts JA**. “Meet the Expert: Treating the treatment: infections in critically ill patients requiring ECMO” European Conference on Clinical Microbiology and Infectious Diseases, Madrid, Spain, April 2018
31. **Roberts JA**. “Do we need beta-lactam TDM or can we just use prolonged infusions?” European Conference on Clinical Microbiology and Infectious Diseases, Madrid, Spain, April 2018
32. **Roberts JA**. “Challenging breakpoints with supranormal dosing: where is the limit in terms of side effects with higher dosing, and can toxicodynamics help?” European Conference on Clinical Microbiology and Infectious Diseases, Madrid, Spain, April 2018
33. **Roberts JA**. “Posaconazole table and IV formulation: Clinical and Real World Evidence Overview” European Conference on Clinical Microbiology and Infectious Diseases, Madrid, Spain, April 2018
34. **Lipman J**. MASTER CLASS: KEY ISSUES IN SEPTIC SHOCK – “Using biomarkers in sepsis management”. Euro Asia European Society of Intensive Care Medicine, Hong Kong, 2018
35. **Lipman J**. MASTER CLASS: AKI AND RRT – “Drug dosing during RRT”. Euro Asia European Society of Intensive Care Medicine, Hong Kong, 2018
36. **Lipman J**. “Beta Lactams – Better by Continuous Infusion”. 2<sup>nd</sup> World Sepsis Congress, Web Lecture, September 2018
37. **Lipman J**. 34<sup>th</sup> World Congress of Internal Medicine, Cape Town, South Africa, October 2018
38. **Lipman J**. 31<sup>st</sup> Annual European Society of Intensive Care Medicine Meeting, Paris, France, October 2018
39. **Lipman J**. Optimization of antimicrobial therapy in the Intensive Care Unit in the era of resistance and stewardship. Norway, October 2018.

### Oral Presentations:

1. **Reade MC.** Cryopreserved Platelets for Surgical Bleeding: Protocol for the CLIP-II Trial based on CLIP-I Pilot Data. *American Association of Blood Banks Annual Congress*, Boston, 2018. (Plenary session; ranked in top 1% of 600 abstracts accepted for presentation)
2. **Reade MC.** The Cryopreserved vs. Liquid Platelets trial (CLIP-II) protocol and practical implications. *Australian and New Zealand College of Anaesthetists Clinical Trial Network Strategic Research Workshop*, Sydney, 2018. (ranked the top proposal presented at the meeting)
3. **Reade MC, Marks D, Bellomo R, Deans, R, Fraser J, Gattas D, Holley A, Irving D, Johnson L, Pearse B, Royle A, Wong J.** Cryopreserved platelets for surgical bleeding: results of the CLIP clinical trial. *Military Health Services Research Symposium*, Florida, 2018
4. Shackelford S, del Junco D, **Reade MC**, Bell R, Becker T, Gurney J, McCafferty R, Marion D. Association of time to craniectomy with survival in combat casualties. *Military Health Services Research Symposium*, Florida, 2018
5. The Steroid Story ANZICS ACCN ASM 2018 Adelaide. **Cohen J.**

### Poster Presentations:

1. Simonova G, Marks DC, Johnson L, **Reade MC**, Tung JP. Characterisation of microparticles present in cryopreserved sheep platelet concentrates *Blood conference*, Brisbane, 2018
2. Simonova G, Marks DC, Johnson L, **Reade MC**, Tung JP. Sheep platelet microparticles: comparison to human platelet microparticles and investigation of storage-associated changes. *Blood conference*, Brisbane, 2018
3. Milford EM, **Liu D, Lipman J**, Tung JP, Winearls J, Wullschlegler M, **Reade MC.** A pilot observational cohort study of endothelial glycocalyx shedding in severe trauma patients. *Military Health Services Research Symposium*, Florida, 2018
4. Boots R, **Townsend S** "Clinical Management Practices of Life-Threatening Asthma: An Audit of Practices in Intensive Care". Currently accepted for publication in *Critical care and resuscitation* in 2019, date to be confirmed.

### Other communications and outputs:

#### Grant Reviews

##### Jason Roberts

1. French Ministry of Health Clinical Research Program, Grant Reviewer, Bureau Innovation et Recherche Clinique, 2018
2. Finovi, Foundation Innovations in Infection, External Grant Reviewer, University of Lyon, France, 2018
3. Thesis Reviewer, PhD, University of Technology Sydney, Australia, 2018
4. Intensive Care Foundation, Grant Reviewer, 2018
5. NHMRC Practitioner Fellowship Panel, Panel member, 2018.

#### Media Activities

##### Jason Roberts

Education segment, Channel 9, Brainbuzz, "Viruses and Infections". October 5<sup>th</sup>, 2018.

## Nursing and Midwifery Services, Intensive Care Services – Prof Fiona Coyer

### Supervised Post-Graduate Research Students

Name (RBWH staff in bold)	Current Studies (e.g. PhD, Masters etc.) University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Hajar Alasmari	PhD, Queensland University of Technology (2012-2018)	Examining Intensive Care Nurses' Clinical decision-making associated with acute kidney injury and continuous renal replacement therapy in Saudi Arabia	Prof Ann Bonner, <b>Prof Fiona Coyer</b>
Sonia Hines	PhD, Queensland University of Technology	An educational intervention to improve nurses' research literacy	Prof Joanne Ramsbotham, <b>Prof Fiona Coyer,</b>
Sandra Johnston	PhD, Queensland University of Technology	Effectiveness of high fidelity simulation as a teaching tool in undergraduate nursing education	<b>Prof Fiona Coyer,</b> Prof Robyn Nash
<b>Lizanne Dagleish</b>	PhD, Queensland University of Technology	The role of microcirculatory dysfunction and skin breakdown in the critically ill	<b>Prof Fiona Coyer, Dr Jill Campbell,</b> Dr Kathy Finlayson, <b>Prof Andre VanZundert</b>
Adrianna Hada	PhD, Queensland University of Technology (2017- 2021)	Transforming patient outcomes through improved and effective nursing clinical handover	<b>Prof Fiona Coyer,</b> Dr Leanne Jack
Paul Jarrett	PhD, Queensland University of Technology (2017-2021)	Administration of antibiotics in the intensive care unit	<b>Prof Fiona Coyer,</b> Prof Sam Keogh, Prof Jason Roberts
Anthony Batterbury	PhD, Queensland University of Technology (2018-2023)	How sick is too sick and how heavy too heavy? Quantifying the clinical acuity and dependency of ward patients whom have triggered emergency response systems in order to understand service delivery boundaries and define thresholds for escalation or resource mobilisation	<b>Prof Fiona Coyer,</b> Clint Douglas
Hannah Rheault	Doctor Health Science, Queensland University of Technology (2014-2019)	Examining the health literacy and chronic disease self-management of remote Aboriginal Australians: a mixed method study	Prof Ann Bonner, <b>Prof Fiona Coyer</b>
Leanne Stone	Doctor Health Science, Queensland University of Technology (2014-2019)	Comparing "Magnet" attributes in nursing between Australia and the United States	<b>Prof Fiona Coyer,</b> Prof Ray Chan, Prof Alexandra McCarthy
<b>Bryan Gregory</b>	PhD, Queensland University of Technology (2018-2022)	The effects of continuous renal replacement therapy and sustained low-efficiency dialysis on immunosuppressive drug levels in critically ill patients with acute kidney injury	<b>Prof Fiona Coyer,</b> Prof Jason Roberts, Prof Ann Bonner
Jessica Ingleman	Masters of Applied Science (Research), Queensland University of Technology (2016-)	Exploring tissue reperfusion in two body positions and varied load periods in critically ill patients (EXTREME 2 pressure study)	<b>Prof Fiona Coyer,</b> Dr Christina Parker
David McIntyre	PhD, Queensland University of Technology (2016-)	Developing and validating haemodialysis nurse-sensitive indicators	Prof Ann Bonner, <b>Prof Fiona Coyer</b>

### 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions

Name	Type of Fellowship	Research Program	University (years)
Jessica Ingleman	Project Manager	The effect of time spent in a position on critically ill patient's skin: the EXTREME pressure 2 study. Extreme pressure study: exploring pressures, tissue reperfusion and body positioning – a pilot evaluation among critically ill patients	QUT (2014-2018)
Jane-Louise Cook	Project Manager	Efficacy of nasogastric and endotracheal tube secu <b>REMENT</b> Devices, preventative dressings and topical skin applications for reducing device-related pressure injuries in intensive care patients; the REMEDy study, a randomised controlled trial Translating evidenced-based pressure injury prevention into the intensive care environment: the SUSTAIN trial	QUT (2014-2018)
Anna Doubrovsky	Project Manager	Efficacy of Incontinence-Associated <b>DermatitIS</b> interven <b>Tio</b> ns for critically ill patients in intensive care; the Distinct pilot randomised control trial	QUT (2016-2018)
<b>Fiona Coyer</b>	Visiting Professor	Institute for skin integrity and infection prevention	University of Huddersfield (2016-present)

## 2018 Current RBWH Research Group / Department Led Research Activity

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
<b>Prof Fiona Coyer (Nursing Research and Critical Care)</b>	<b>Jill Campbell (Skin Integrity)</b>	Efficacy of incontinence-associated dermatitis interventions for critically ill patients in intensive care; the Distinct pilot randomised control trial
<b>Prof Fiona Coyer (Nursing Research and Critical Care)</b>	Tony Parker (QUT), <b>Jill Campbell (Skin Integrity)</b> , Anna Doubrovsky (QUT)	BiocheMical characteristics and hEaling rates of medical device-related pressure Injuries (the MEDICI study); a prospective observational pilot study
<b>Prof Fiona Coyer (Nursing Research)</b>	<b>Stacey Watts (Intensive Care Unit)</b> , <b>Jayesh Dhanani (Intensive Care Unit)</b> , Samantha Keogh (QUT)	Intensive care point of care testing for arterial gas analyses: the INCEPT audit

## 2018 Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Rachael Bailey (Caboolture Hospital, ICU)	Alexis Tabah (Redcliffe Hospital, ICU), Manesh Ramanen (Redcliffe Hospital, ICU). <b>Prof Fiona Coyer (Nursing Research and ICU)</b>	Survey of family visiting in ICU – WELCOME – ICU Study
Kate Kynoch (Mater Hospital)	<b>Prof Fiona Coyer (Nursing Research &amp; ICU)</b> , Marian Mitchell (PAH/GU), Gary Von Dohren (Redcliffe Hospital, ICU)	IvES family visiting study
Kathleen Finlayson (QUT)	Helen Edwards (QUT), <b>Prof Fiona Coyer (Nursing Research)</b>	Validity of laser speckle contrast imaging for assessment of superficial perfusion in the lower limb of patients with vascular leg and foot ulcers
Stijn Blot (Ghent Uni Belgium)	Sonia Labeau (Ghent Uni Belgium), <b>Prof Fiona Coyer (Nursing Research)</b> , Wendy Chaboyer (Griffith), Frances Lin (Griffith)	DecubICUs one-day point-prevalence study on pressure injuries in ICUs
Helen Edwards (QUT)	<b>Kerrie Coleman (Skin Integrity)</b> , Patricia Sinasac (TPCH), Kathleen Finlayson (QUT), <b>Prof Fiona Coyer (Nursing Research)</b> , Christina Parker (QUT), Jessica Schluter (TPCH)	Reducing the prevalence and severity of wounds through implementation of the Champions for Skin Integrity Model – Protecting Skin Integrity (PSI)

## 2018 Research Awards and Achievements

Recipient	Award	Event
<b>Prof Fiona Coyer (Nursing Research/Intensive Care Services)</b>	Vice-Chancellor's Award for Excellence	2018 Vice-Chancellor's Award for Excellence ceremony, Queensland University of Technology, 20 July 2018

## 2018 Research Grants – Awarded

Investigators (RBWH staff in bold)	RBWH Research Groups/Departments	Project Title	Granting Body	Amount in 2018	Total Amount (years)
<b>Bryan Gregory, Dwarakanathan Ranganathan, Fiona Coyer</b>	Renal Medicine, Nursing and Midwifery Research Centre, Department of Intensive Care Services	The effects of renal replacement therapy on immunosuppressive drug concentrations	Royal Brisbane and Women's Hospital Foundation	\$20,000	\$40,000 (2018-2019)
<b>Jill Campbell, Judith Eddy, Andrea Garrett, Kerri Coleman, Maree Grier, Cara Masterson, Fiona Coyer</b>	Skin Integrity, Gynaecology Department, Gynaecology Oncology Department, Psychology Department, Physiotherapy Department, Nursing and Midwifery Research Centre	A multidisciplinary pre-operative optimisation care bundle for women undergoing vulval surgery; a feasibility study	Royal Brisbane and Women's Hospital Foundation	\$13,332.66	\$39,998 (2017-2019)
Kathleen Finlayson, Helen Edwards, <b>Fiona Coyer</b>	Critical Care and Clinical Support Services	Validity of laser speckle contrast imaging for assessment of superficial perfusion in the lower limb of patients with vascular leg and foot ulcers	QUT Institute of Health and Biomedical Innovation Mid-Career Research Grant	\$9,554	\$9,554 (2018)

## 2018 Research Grants – Awarded (cont)

Investigators (RBWH staff in bold)	RBWH Research Groups/ Departments	Project Title	Granting Body	Amount in 2018	Total Amount (years)
<b>Fiona Coyer, Tony Parker, Jill Campbell,</b> Anna Doubrovsky	Nursing and Midwifery Research Centre, Critical Care and Clinical Support Services, Queensland University of Technology	BiocheMical characteristics and hEaling rates of medical device-related pressure Injuries (the MEDICI study); a prospective observational pilot study	Queensland University of Technology, School of Nursing Pilot Grant	\$30,000	\$30,000 (2018)
<b>Fiona Coyer, Stacey Watts, Jayesh Dhani,</b> Samantha Keogh	Nursing and Midwifery Research Centre, Critical Care and Clinical Support Services, Queensland University of Technology	Intensive care point of care testing for arterial gas analyses: the INCEPT audit	Queensland University of Technology, New Professor Grant	\$25,000	\$25,000 (2018)

## 2018 Research Publications

### Journal Articles:

1. Kumta N, **Coyer F**, David M. Perioperative factors and pressure ulcer development in postoperative ICU patients: a retrospective review. *Journal of Wound Care*. 2018. 27(8):475-485
2. Kynoch K, Chang A, **Coyer F**, McArdle A. Developing a model of factors that influence meeting the needs of family with a relative in ICU. 2018. *Int J Nurs Pract*. 8: e12693
3. Chaboyer WP, Thalib L, Harbeck EL, **Coyer F**, Blot S, Bull CF, Nogueira PC, Lin FF. Incidence and prevalence of pressure injuries in adult intensive care patients: a systematic review and meta-analysis. *Critical Care Medicine*. 2018. Doi: 10.1097/CCM
4. Beeckman D, Van den Bussche K, Alves P, Arnold Long MC, Beele H, Ciprandi G, **Coyer F**, de Groot T, De Meyer D, Deschepper E, Dunk AM, Fourie A, Garcia-Molina P, Gray M, Iblasi A, Jelnes R, Johansen E, Karadağ A, Leblanc K, Kis Dadara Z, Meaume S, Pokorna A, Romanelli M, Ruppert S, Schoonhoven L, Smet S, Smith C, Steininger A, Stockmayr M, Van Damme N, Voegeli D, Van Hecke A, Verhaeghe S, Woo K & Kottner J. Towards an international language for Incontinence-Associated Dermatitis (IAD): design and evaluation of psychometric properties of the Ghent Global IAD Categorisation Tool (GLOBIAD) in 30 countries. *British Journal of Dermatology*. 2018. doi:10.1111/bjd.16327
5. **Coyer F**, Cook J-L, Doubrovsky A, Campbell J, Vann A, McNamara G. Understanding contextual barriers and enablers to pressure injury prevention practice in an Australian intensive care unit: an exploratory study. *Australian Critical Care*. <https://doi.org/10.1016/j.aucc.2018.02.008>
6. Johnson S, Fox A, **Coyer F**. Factors influencing nursing student off campus clinical performance: a retrospective audit study. *Journal of Nursing Education*. 2018; 57(6): 333-338
7. **Coyer F**, Campbell J. Incontinence-associated dermatitis in the critically ill patient: an intensive care perspective. *Nursing in Critical Care*. 2018; 23(4): 198-206
8. Johnson S, **Coyer F**, Nash R. Kirkpatrick's Evaluation of Simulation and Debriefing in Health Care Education: a Systematic Review. *Journal of Nursing Education*. 2018;57(7):393-398
9. Barakat-Johnson M, Lai M, Gefen A, **Coyer F**. Evaluation of a fluidised positioner to reduce occipital pressure injuries in intensive care patients: A pilot study. *International Wound Journal*. 2018. <https://doi.org/10.1111/iwj.13051>
10. Fullbrook P, Miles S, **Coyer F**. Prevalence of pressure injury in adults presenting to the emergency department by ambulance. *Australian Critical Care*. 2018. <https://doi.org/10.1016/j.aucc.2018.10.002>
11. Hughes JA, Cabilan CJ, Williams J, Ray M, **Coyer F**. The effectiveness of interventions to reduce peripheral blood culture contamination in acute care: A systematic review protocol. *BMC Systematic Reviews*. 2018. <https://doi.org/10.1186/s13643-018-0877-4>.

## Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speaker:

1. Campbell J, Coleman K, Hocking K, **Coyer F**. Lack of recognition and treatment of pain for people with incontinence-associated dermatitis: A call for action. Wounds Australia National Conference. Adelaide, Australia. October 2018
2. **Coyer F**. Efficacy of Incontinence-Associated Dermatitis interventions for critically ill patients in intensive care: The Distinct pilot RCTI. Wounds Australia National Conference. Adelaide, Australia. October 2018
3. Chaboyer W, Thalib L, Harbeck E, **Coyer F**, Blot S, Bull C, Nogueira P and Lin F. Incidence and prevalence of pressure injuries in adult intensive care patients: a systematic review and meta-analysis. Australian and New Zealand Annual Scientific Meeting on Intensive Care. Adelaide, Australia. October 2018. Best nursing free paper (\$1,500)
4. **Coyer F**. Reducing intensive care medical device-related pressure injuries caused by nasogastric and endotracheal tubes: a pilot study. 20<sup>th</sup> Annual Meeting of the European Pressure Ulcer Advisory Panel. Rome, Italy. 12-14 September 2018.
5. **Coyer F**. How to build nursing research in ICU. Queensland Critical Care Research Forum, Sunshine Coast, Australia. May 2018.



## Professor Tess Cramond Multidisciplinary Pain Centre

The Professor Tess Cramond Multidisciplinary Pain Centre (PTCMPC) has continued to build research involvement and collaborations throughout 2018. It is the vision of this Centre to continue this growth.

### The Highlights for 2018 were:

- Dr Nicole Andrews (Occupational Therapist) being awarded a 'Rising Star Award' at the 2018 Metro North Research Excellence Awards evening on 22 May 2018. This was a well-deserved award as she continues her work in developing and validating an activity App to be used in patients with persistent pain. Dr Andrews is involved in many other research initiatives that are detailed in this report
- A new collaboration in 2018 is with the Occupational Therapy Department and this includes research projects around virtual reality distraction during dressing changes in the burn-injured patient and a PhD on 'Is sensory sensitivity a factor in non-adherence with compression garments post-burn'
- A further collaboration from 2018 is with the Trauma Service looking at, 'An investigation of the prevalence, impact, and management of chronic pain post trauma at a tertiary public hospital'. Further work in this area will look at opioid stewardship following major trauma.

The PTCMPC is excited and committed to developing new and ongoing research initiatives and collaborations. This is especially so as the Centre prepares for the move to the Surgical, Treatment and Rehabilitation Services building in 2020.

### Supervised Post-Graduate Research Students

Name <i>(RBWH staff in bold)</i>	Current Studies <i>(e.g. PhD, Masters etc.)</i> University <i>(duration)</i>	Research Project Title	Supervisors <i>(RBWH staff in bold)</i>
Genevieve O'Donoghue	PhD CQU (2018-2020)	Couples, attachment and chronic pain	Pamela Meredith (CQU), Jenny Strong (OT), <b>Nicole Andrews</b>
<b>Erin Molloy</b>	MPhil (2018 – present)	Is sensory sensitivity a factor in non-adherence with compression garments post-burn	Pamela Meredith (CQU), <b>Jenny Strong</b> (OT), <b>Paul Gray</b>
Siti Sarah Fazalul Rahiman	PhD (2013-2017)	The potential role of DYN A (1-17) fragments as an immunotherapeutic target in peripheral inflammation. Research based at PACE	Peter Cabot, <b>Paul Gray</b>

### 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions

Name	Type of Fellowship	Research Program	University <i>(years)</i>
<b>Nicole Andrews</b>	Postdoctoral Research Fellow, RBWH Postdoctoral Research Fellow	RECOVER Injury Research Centre, Towards understanding how much activity is too much for individuals with chronic pain	The University of Queensland (2018-2019)

## 2018 Current RBWH Research Group / Department Led Research Activity

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
<b>Nicole Andrews</b>	Marlien Varnfield (CSIRO), David Ireland (CSIRO)	Towards understanding how much is too much for individuals with chronic pain
<b>Nicole Andrews</b>	Belinda Long (OT), Jenny Strong (OT), Sue Laracy (OT)	Evaluation of occupational therapy interventions within the orthopaedic physiotherapy screening clinic
<b>Nicole Andrews</b>	Olivia Zheng (Trauma Service), Jodie Ross (Trauma Service), Venerina Johnston (UQ), Elise Gane (UQ), Esther Smits (UQ), Charlotte Brakenridge (UQ), <b>Paul Gray</b> , Michael Rudd (Trauma Service)	An investigation of the prevalence, impact, and management of chronic pain post trauma at a tertiary public hospital
Robyn Scheer (OT)	<b>Nicole Andrews</b> , Erin Molloy (OT)	The effect of limb position on leg circumference measurements in patients diagnosed with lower limb lymphoedema
<b>Erin Molloy</b>	Pamela Meredith (CQU), <b>Jenny Strong</b> (OT), <b>Paul Gray</b>	Is sensory sensitivity a factor in non-adherence with compression garments post-burn

## 2018 Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Charlotte Brakenridge (UQ), Venerina Johnston (UQ), Esther Smits (UQ), Elise Gane (UQ)	<b>Nicole Andrews</b>	Impact of interventions on work-related outcomes for individuals with musculoskeletal injuries after road traffic crash: a systematic review protocol
Elise Gane (UQ), Venerina Johnston (UQ), Esther Smits (UQ), Charlotte Brakenridge (UQ)	<b>Nicole Andrews</b>	Exploring the perspectives of key stakeholders in return to work after road traffic crash
Esther Smits (UQ), Venerina Johnston (UQ), Charlotte Brakenridge (UQ), Elise Gane (UQ)	<b>Nicole Andrews</b>	Recovery following a road traffic crash – a Delphi Study
Jessica Thackeray (UQ), Sophie Bowen (UQ), Cory Poll (UQ), Pamela Meredith (CQU)	Jenny Strong (OT), <b>Nicole Andrews</b>	“Can Sensory- and Attachment-Informed approaches be used to modify perceptions of pain?”
Louise Burgess (Bournemouth University, UK), Thomas Wainwright (Bournemouth University, UK)	<b>Nicole Andrews</b>	What is the evidence for occupational therapy interventions in general surgical pathways and do they have a role in ERAS pathways? A systematic review.
Lynn DeBar (Kaiser Permanente Centre for Health Research, Portland, USA), Meghan Mayhew (Kaiser Permanente Centre for Health Research, Portland, USA)	<b>Nicole Andrews</b>	PPACT Administrative Supplement for Research on Sleep Disturbances and Impact on Chronic Pain

## 2018 Research Awards and Achievements

Recipient	Award	Event
<b>Nicole Andrews</b>	Rising Star Award	2018 Metro North Research Excellence Awards, 22 May 2018

## 2018 Research Grants – Awarded

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups/ Departments	Project Title	Granting Body	Amount in 2018	Total Amount <i>(years)</i>
<b>Nicole Andrews</b> , Marlien Varnfield (CSIRO), David Ireland (CSIRO)	Occupational Therapy, OPSC, and the Professor Tess Cramond Multidisciplinary Pain Centre	The development and implementation of a mobile health platform to support activity pacing implementation in chronic pain	Metro North LINK funding scheme	\$7,137	\$60 000 (2017-2018)
Erin Molloy (OT), <b>Paul Gray</b> , Amber Jones (OT)	OT/Pain	Immersive virtual reality in immersive wound care	CAHRLI Innovation Challenge 2017-2018	\$2,000	\$2,000 (2018)
<b>Nicole Andrews</b> , Marlien Varnfield (CSIRO), David Ireland (CSIRO)	Occupational Therapy, OPSC, and the Professor Tess Cramond Multidisciplinary Pain Centre	The development and implementation of a mobile health platform to support activity pacing implementation in chronic pain	RBWH Foundation Postdoctoral Fellowship	\$50,000	\$50,000 (2018)
Julia Lee, <b>Paul Gray</b> , Rebecca Kimble	Department of Anaesthesia and Perioperative Medicine	ROTEM and platelet function in pre-eclamptic obstetric patients	CSL Behring ANZCA Research Award	\$70,000	\$70,000 (2018)

## 2018 Research Publications

### Journal Articles:

1. **Andrews NE, Strong J**, Meredith PJ, & Brandjerporn GS. Approach to activity engagement and differences in activity participation in chronic pain: a five-day observational study, *Australian Occupational Therapy Journal*. 2018; doi:10.1111/1440-1630.12516
2. Morgan M, Deuis JR, Frosig-Jorgensen M, Lewis RJ, Cabot PJ, **Gray P**, Vetter I. (2018) Burn Pain: a Systematic and Critical Review of Epidemiology, Pathophysiology, and Treatment. *Pain Medicine*, 19 (4): 708-734.

## 2018 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speaker:

1. **Andrews N**. Overactivity in chronic pain: myth or reality? 17<sup>th</sup> World Congress on Pain, September 2018
2. **Andrews N**. The development and implementation of a mobile health platform to support activity pacing in chronic pain. Australian Pain Society 38<sup>th</sup> and New Zealand Pain Society Conjoint Annual Scientific Meeting, April 2018
3. **Gray P**. Clinical Pain Research: The Need; the Challenge. Brisbane Pain Research Forum, Institute of Molecular Biosciences, University of Queensland.

### Oral Presentations:

1. Rahiman S, Morgan M, **Gray P**, Shaw N and Cabot P. Biotransformation of DYN 1-17 in inflamed nasal tissues: potential immunotherapeutics for chronic rhinosinusitis. International Conference on Drug Discovery and Translational Medicine 2018. Putrajaya, Malaysia.

### Poster Presentations:

1. **Clubb B**. Circumstances Associated with Inappropriate Opioid Prescribing. Combined Australian Pain Society and New Zealand Pain Society Annual Scientific Congress. Sydney Australia.

## Skin Integrity Services

Skin integrity Services are involved in wide ranging research into all aspects skin integrity and wound management – pathophysiology, diagnostics and interventions.

Skin Integrity Services undertakes its own research activities and partners with researchers from a number of Australian Universities.

### Supervised Post-Graduate Research Students

Name (RBWH staff in bold)	Current Studies (e.g. PhD, Masters etc.) University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
<b>Kerrie Coleman</b>	PhD Candidate, CQU	The lived experience of intimacy as described by persons living with chronic wounds	Professor Kerry Reid-Searl, Dr Matt Eliot
<b>Lizanne Dalgliesh</b>	PhD Candidate, QUT		<b>Jill Campbell</b>

### 2018 Research Positions: Coordinators, Fellow, Adjunct and Honorary Positions

Name	Type of Fellowship	Research Program	University (years)
Monica Stankiewicz	Honorary Research Fellow RBWH		QUT
Dr Jill Campbell	Visiting Fellow QUT		QUT

### 2018 Current RBWH Research Group / Department Led Research Activity

RBWH Research Group/Department Lead Researchers	Collaborative Researchers	Research Project Title
Dr Jill Campbell	Kerrie Coleman, Kathy Hocking	A multidisciplinary pre-operative optimisation care bundle for women undergoing vulval surgery; a feasibility study. The Optimise study
Dr Jill Campbell	Brigid Gillespie, Rachel Walker, Wendy Chaboyer, Marie Cooke, and Jennifer Whitty. AI: Lukman Thalib, Sharon Latimer, Donna McClean, Rosalind Probert	Efficacy and Effectiveness of Prophylactic foam dressings in the prevention of sacral pressure injuries in at-risk hospitalised patients: the EEPOC Trial. National Health and Medical Research Council (NHMRC) Project Grant (2018)
Dr Dianne Smith	Kerrie Coleman	ELECT, Randomised Controlled Trial comparing wound healing with compression therapy to Electrical Stimulation La Trobe University – recruitment underway
Dr Dianne Smith	Kerrie Coleman	Feasibility study Perfusion measures matched up with clinical assessment of CVI and PAD; using a laser speckle contrast imaging camera – associate investigator; Principle Investigator Professor Helen Edwards QUT
Kerrie Coleman	Pat Sinasac; Dr Alison Mudge	Reducing the prevalence and severity of wounds through implementation of the Champions for Skin Integrity Model – protecting Skin Integrity (PSI) – Associate investigator; Principle Investigator Kathleen Finlayson QUT
Dr Dianne Smith	Kerrie Coleman	An adaptive trial of the effectiveness of topical anti-inflammatory agents on pain in patients with chronic venous leg ulcers: pilot study Principle Investigator Kathleen Finlayson QUT (QUT recruiting)

### 2018 Research Grants – Awarded

Investigators (RBWH staff in bold)	RBWH Research Groups/Departments	Project Title	Granting Body	Amount in 2018	Total Amount (years)
<b>Jill Campbell</b>	Skin Integrity Services	A multidisciplinary pre-operative optimisation care bundle for women undergoing vulval surgery; a feasibility study. The Optimise study	RBWH Foundation Project Grant	\$39,000	\$39,000 (2018)

## 2018 Research Publications

### Journal Articles:

1. Webster, J., Scuffham, P., **Stankiewicz, M.**, & Chaboyer, W. P. Negative pressure wound therapy for skin grafts and surgical wounds healing by primary intention. *The Cochrane Library*. Current review – accepted and awaiting publication 2018
2. Smith M, Ticchi M, Adkins S, Bennett N, Nair D...**Campbell J** (2018). National Wound and infection collaborative group; a pathway for identification and management of fungal infections associated with incontinence-associated dermatitis. *Infection, Disease and Health* 23(S17)
3. Lee, YC, **Campbell J**, Doubrovsky A, McGarry A, Coyer F. (2018). A descriptive exploratory survey of incontinence-associated dermatitis in the intensive care setting: The ADDRESS study. *Wound Practice and Research*, 26(4), 170-173
4. **Stankiewicz, M.** & Wyland, M. (2017) A review of suspected antiseptic burns intra-operatively: a quality improvement review. *ACORN Journal* (accepted and awaiting publication)
5. Gordon, J., **Stankiewicz, M.**, Pollock, H., Christensen, M., Barker-Gregory, N. & Dulhunty, J. (2017) A trial of two prophylactic sacral dressings (2PSD) in the prevention of stage 1 sacral pressure injury in the critically ill patient: a study protocol. *Wound Practice and Research*, 25(2) 82-87
6. Coyer, F. **Campbell, J.** (2017) Incontinence dermatitis in the critically ill patient: an intensive care perspective. *Nursing in Critical Care*
7. **Campbell J.** (2018). Frenotomy for tongue-tie in newborn infants. *International Journal of Nursing Studies*. Doi.org/10.1016/j.ijnurstu.2018.03.022
8. **Campbell J** (2018). HMG CoA reductase inhibitor (statins) for preventing acute kidney injury after surgical procedures requiring cardiac bypass. *Journal of Perioperative Practice* 28(6)142-143
9. Edwards, H. E., Parker, C. N., Miller, C., Gibb, M., Kapp, S., Ogrin, R., Anderson, J., Coleman, K., **Smith D., & Finlayson, K.** (2017). Predicting delayed healing: the diagnostic accuracy of a venous leg ulcer risk assessment tool. *International Wound Journal*
10. Finlayson, Kathleen J., Christina N. Parker, Charne Miller, Michelle Gibb, Suzanne Kapp, Rajna Ogrin, Jacinta Anderson, **Kerrie Coleman, Dianne Smith**, and Helen E. Edwards. "Predicting the likelihood of venous leg ulcer recurrence: the diagnostic accuracy of a newly developed risk assessment tool." *International wound journal* (2018).

### Invited Speaker

1. **Campbell J** (2018). The Skin Safety Model. *Wounds Australia National Conference*, October, Adelaide, Australia
2. **Campbell J** (2018). Lack of recognition and treatment of pain for people with incontinence-associated dermatitis: a call for action. *Wounds Australia National Conference*, October, Adelaide, Australia
3. **Campbell J** (2018). The Skin Safety Model. *Wound Ostomy and Continence Nurses National Conference*, Philadelphia, USA.

## Other Communications and Outputs:

Dr Jill Campbell – author for Cochrane Nursing Care Field. Three Cochrane Review summaries under review.

Dr Jill Campbell recipient of the Janelle and Robert Bird Early Career Fellowship RBWH Foundation.

Elect Trial (LaTrobe – recruiting)

Speckle (QUT – awaiting ethics)

FICLUS (QUT – completed)

PSI (QUT – underway)

Anti-inflammatory dressings trial (QUT recruiting)

Dr Jill Campbell is the lead AI for RBWH for the following project.

Brigid Gillespie, Rachel Walker, Wendy Chaboyer, Marie Cooke, & Jennifer Whitty. AI: Lukman Thalib, Sharon Latimer, Donna McClean, **Jill Campbell**, Rosalind Probert. *Efficacy and Effectiveness of Prophylactic foam dressings in the prevention of sacral pressure injuries in at-risk hospitalised patients: the EEPOC Trial*. National Health and Medical Research Council (NHMRC) Project Grant (2018).