

Critical Care and Clinical Support Services



Dr Mark Mattiussi
Executive Director
Critical Care and Clinical Support
Services



Keiri McLoyd
Nursing Director
Critical Care and Clinical Support
Services

The Critical Care and Clinical Support Services clinical staff integrate research into their everyday clinical practice. They ensure their practices are evidenced based and enrol their patients into multicentre trials to provide them with ground breaking treatment and inform future health care guidelines and delivery.

The service line also has an active translation research and clinical trials agenda. Our world renowned researchers are nationally and internationally recognised for their work in Critical Care (*ICU, Emergency, Burns, Trauma, Military*) and in Persistent Pain research fields. Our Nursing, Medical and Allied Health researchers have been formally recognised for their achievements and a number have been awarded research and quality improvement awards. As a Critical Care and Clinical Support Service and by the nature of research, our teams collaborate and undertake research with other teams at RBWH, our university partners and other health services and research/educations organisations nationally and internationally.

We are proud of the research activities undertaken by our team and their collaboration with others. The details are highlighted in the sections for each department within this report. Some of the highlights include the research undertaken in the Department of Emergency Medicine which reflects the breadth of emergency care and includes research in headache, sepsis, social work, radiology, mental health, medication error, advanced health care, pneumothorax, alcohol, syncope, operations management, models of care and acute cardiac diseases. The Intensive Care Unit has a recent focus on trauma and blood products this year in addition to ongoing interests in pressure injury management and pharmacokinetics amongst other research interests in the critical care field. The Skin Integrity Service team have been involved in pressure injury research and have published in journals and text books on the maintenance and management of skin integrity. The Professor Tess Cramond Multidisciplinary Pain Centre continues to undertake research in collaboration with major universities and the Allied Health Services within RBWH. The Hyperbaric Medicine Service continues to progress research in hyperbaric therapy and chronic leg ulcers and in the management of sensorineural hearing loss.

Department of Emergency Medicine

The Department of Emergency Medicine, RBWH has continued to achieve great research outcomes in the care of patients with acute conditions. With over 75,000 presentations in 2015, our focus has been to identify ways to improve emergency care in a timely and appropriate manner, and also to implement findings from research for the benefit of patients and the health service. Our research has resulted in 9 publications in 2015, as well as numerous invited speeches and conference presentations.

Director of Research, A/Prof Kevin Chu, actively encourages all contributions from the multi-disciplinary ED team members into research aimed at improving the provision of emergency medicine care. 17 new research projects were undertaken in DEM, including five that received grant funding. Reflecting the breadth of emergency care, our research topics include headache, sepsis, social work, radiology, mental health, medication error, advanced health care, pneumothorax, alcohol, syncope, operations management, models of care and acute cardiac diseases.

Prof Louise Cullen completed her PhD in accelerated chest pain assessment in 2015, and the department continues to supervise many post-graduate and undergraduate students.

Supervised Post-graduate Research Students

Name	Current Studies University <i>(duration)</i>	Research Project Title	Supervisors <i>(RBWH staff in bold)</i>
D Flaws	PhD, UQ (2014–2016)	Decision Aid Derivation Methods for the Acute Coronary Syndrome management pathway	Louise Cullen
A Ho	MPhil, UQ (2016–)	Examination of troponin testing during implementation and post-implementation of accelerated chest pain assessment strategies: <i>A marker of translational research success</i>	Louise Cullen



Department of Emergency Medicine (cont)

Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers (RBWH staff in bold)	Research Project Title
Louise Cullen	Thomas Knowlman, Jaimi Greenslade, William Parsonage, Tracey Hawkins, Lorcan Ruane, Paul Martin, Sandhir Prasad, Daniel Lancini	The association of electrocardiographic abnormalities and acute coronary syndrome in emergency patients with chest pain
Louise Cullen	Lorcan Ruane, Jaimi Greenslade, Will Parsonage, Tracey Hawkins, Chris Hammett, Carolyn Lam Su Ping, Thomas Knowlman, Shelagh Doig, Clara Chow, Derek Chew	Differences in presentation, management and outcomes in women and men presenting to an Emergency Department with possible cardiac chest pain
Louise Cullen	Jaimi Greenslade, William Parsonage, Daniel Lancini, Paul Martin, Sandhir Prasad.	Atrial fibrillation in the emergency chest pain presentation: Additional analysis of cardiac chest pain studies
Louise Cullen	T Adikari, Jaimi Greenslade, William Parsonage, Y Sandoval, Tracey Hawkins, Shelagh Doig	Frequency, Features, Outcomes of Type 2 Myocardial Infarction versus Type 1 and Non Myocardial Infarction in Emergency Department Patients
Louise Cullen	Anthony Brown, Jaimi Greenslade, Tracey Hawkins, Peter O'Rourke, William Parsonage, Martin Than, Jillian Tate	Rapid assessment of cardiac chest pain: The I mproved A ssessment of C hest P ain trial (ImpACT): <i>A prospective validation study</i>
Louise Cullen	Julian Williams, Jaimi Greenslade, Tracey Hawkins, Matthew Jensen, Angela Hills, Paul Wynne, Emily Dalton	C annulation R ates in the E mergency D epartment: <i>an Intervention Trial (CREDIT)</i>
Louise Cullen	Jaimi Greenslade, William Parsonage, Adam Scott, Jacobus Ungerer, Ariel Ho	Examination of health care assessment practices and costs and troponin testing pre- and post- utilisation of accelerated chest pain assessment strategies: <i>A marker of translational research success.</i>
Kevin Chu	Tegwen Howell, Gerben Keijzers, Jeremy Furyk, Robert Eley, Frances Kinnear, Ogilvie Thom, Ibrahim Mahoud	Headache Investigation Snapshot Queensland
Kevin Chu	Ibrahim Mahoud, Jeremy Furyk, Gerben Keijzers, Robert Eley, Frances Kinnear, Ogilvie Thom, Tegwen Howell, Angus Hann	Spectrophotometry and visual inspection for xanthochromia: results from a four-year state-wide dataset
Kevin Chu	Tegwen Howell, Jeremy Furyk, Gerben Keijzers, Robert Eley, Frances Kinnear, Ogilvie Thom, Ibrahim Mahoud	Atraumatic subarchnoid haemorrhage: a prospective case series.
Kevin Chu	Ibrahim Mahmoud, Jacobus Ungerer	Haemolysis after a traumatic spinal tap: <i>a laboratory stimulation</i>
Anthony Bell	Roger O'Gorman	Reviewing equality of health care outcomes out-of-hours (REARCH study)
Anthony Bell	John Burke	State-wide model of emergency department care (SWAMP study)
Louise Cullen	Christian Mueller, Jaimi Greenslade, William Parsonage	Basel Syncope Evaluation – <i>Loss of Consciousness Study</i>
Alex Markwell	Tegwen Howell, Carol Windsor	Describing the experiences of Social workers in tertiary ED

Other Current Collaborative Research Activity

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
David Mountain (S.C.G.H. WA)	Kevin Chu	RESPECT-ED, rate of emboli and subs segmental PE form CT ordered by ED – multi-centre collaboration to look at variability, utility and futility

Research Awards and Achievements

Recipient	Award	Event
Louise Cullen	Best Paper Award 1015	-

Department of Hyperbaric Medicine Services

Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers <i>(RBWH staff in bold)</i>	Research Project Title
Susannah Sherlock		Hyperbaric Oxygen Therapy in the Treatment of Sudden Sensorineural Hearing Loss: <i>A retrospective analysis of outcomes</i>
Kenneth Thistlethwaite		The effectiveness of hyperbaric oxygen therapy for healing chronic venous leg ulcers: <i>A randomised, double blind, placebo-controlled trial</i>
Tobias Trinks		Transcutaneous Oximetry Measurements of the Leg: <i>Comparing Different Measuring Equipment</i>



Intensive Care Services

With over 2000 admissions annually to the RBWH Intensive Care Unit there is a high probability that families of admitted patients will be asked to participate in research at some time during the ICU stay. The unit is recognised as a leader in the management of sepsis, burns and infection and the facility is often approached to participate in research in these areas. The aim of our research is to ensure patients have access to the latest available interventions that improve patient outcomes.

Our commitment to continuing to providing a high level of service and care remains, with research being just one component of the care delivered.

In 2015 the research focus had a slight shift from previous years to include trauma and blood product use in the ICU setting. We committed to participating in a series of trauma related studies, including ENACT, Da Vinci, ADP-Trauma, PATCH and TBI Cortisol. This series of work will examine patient outcomes following trauma and the interventions these patient groups undergo during their hospital stay. It is anticipated that this work will evaluate and improve hospital length of stay and overall patient outcomes. Prof Michael Reade and project manager Renae Deans commenced the multi-centre randomised controlled trial of cryopreserved platelets versus conventional stored platelets study (CLIP) in three sites across Australia. This pilot study aims to demonstrate the efficacy and cost effectiveness of cryopreserved platelets in the management of active bleeding. Future studies will explore the use of these platelets for trauma patients in regional centres where access to stored platelets can be limited.

Intensive Care also saw the continuation of work that formed the focus of 2014, with the BLING II (*Beta-Lactam Infusion Group*) Study findings published in 2015, and planning for the BLING III study submission to the NHMRC commenced, continuing our commitment to improving patient management of sepsis in ICU.

Supervised Post-graduate Research Students

Name	Current Studies University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Abdul Aziz Al-Obaid	PhD, UQ (2012–2016)	Continuous versus intermittent administration of beta-lactams in critically ill patients Pharmacokinetics of piperacillin tazobactam, meropenem and fluconazole in critically ill obese patients	Jason Roberts (Pharmacy), Jeffrey Lipman (ICU)
Judith Bellapart	PhD, UQ (2013–2016)	Cerebral microcirculation after head injury in bovine models	Robert Boots
Martha Druery	PhD, UQ (2014–2017)	Psychosocial outcomes post severe burn injuries in adults – <i>An exploratory study</i>	Jeffrey Lipman
Caleb Economou	PhD, UQ (2012–2017)	The pharmacokinetics of vancomycin, meropenem and ticarcillin in critically ill patients undergoing prolonged intermittent renal replacement therapy	Jason Roberts (Pharmacy), Jeffrey Lipman (ICU)
Julian Williams	PhD, UQ (2008–2016)	The sepsis registry: a prospective database to characterise and facilitate improved outcome for admitted patients with community acquired infection	Jeffrey Lipman
Gloria Wong	MBBS/PhD, UQ (2012–2017)	A pharmacokinetics-pharmacodynamic evaluation of beta-lactam antibiotic TDM guided dose adjustment in critically ill patients	Jason Roberts (Pharmacy), Jeffrey Lipman (ICU)
Victoria Eley	PhD, UQ (2014–2016)	Clinical guidelines relating to the anaesthetic management of obese parturients: An evaluation of their utility in clinical practice and the evidence supporting the recommendations	Jeffrey Lipman
Jayesh Dhanani	PhD, UQ (2015–2017)	Study of disposition of inhaled tobramycin	Jeffrey Lipman

Intensive Care Services (cont)

Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers (RBWH staff in bold)	Research Project Title
Jennifer Paratz	Robert Boots , Kellie Stockton	Exercise physiology post critical illness
John Gowardman	Jennifer Paratz, Michael Muller	Practices and complications associated with central venous and arterial catheterization in a burns population compared with a non burns group
Judith Bellapart		Exogenous melatonin in critically ill patients: the impact on sleep and ICU psychosis
Jennifer Paratz	Robert Boots , Justin Kenardy, Geoff Mitchell, Tracy Comans, Fiona Coyer, Paul Thomas	IMPOSE: Improving outcomes in sepsis – <i>A multidisciplinary outpatient follow up</i>
Anthony Holley	Jennifer Paratz, Robert Boots	Assessment of the microcirculation in shocked critically unwell patients during the first 24 hours of resuscitation (MICROSCAN)
Jennifer Paratz	Michael Muller, Jason Roberts, John Younger, Jayesh Dhanani, K Towsey	Does adrenergic blockade improve outcome in adult burns?
Jennifer Paratz	S Berney	Estim: Electrical stimulation and cycling in the sepsis patine. A double blinded randomized controlled trial
Jennifer Paratz	Paul Thomas , A Jones	Detection of secretions in ventilated patients waveform analysis
Jennifer Paratz	Orlando Flores, Michael Muller, Jeremy Cohen	Cortisol, metabolic and psychological outcomes in burns patients, a double blinded randomized controlled trial
Jennifer Paratz	Michael Muller , S Paul, J Youngman	Mortality and cardiovascular risk in the burns survivor
Jennifer Paratz	Robert Boots, George Pang, Rajeev Hegde, Michael Muller, John Younger	Inhalation injury and right heart failure in burns
Michael Reade	Anthony Holley, Renae Deans	A pilot multicentre blinded randomised controlled clinical trial of cryopreserved platelets vs. conventional liquid-stored platelets for the management of post-surgical bleeding: <i>The CLIP Trial</i>
John Gowardman		A randomised, double blind, placebo controlled, phase 3 study to assess the safety and efficacy of ART123 in subjects with severe sepsis and coagulopathy (ART-123)
Jeremy Cohen		A comparison of the total and free Cortisol response to a standard short synacthen test in patients with traumatic brain injury
John Gowardman		A prospective, randomised, double blind, multicentre, phase 3 study to assess the safety and efficacy of intravenous ceftolozane/tazobactam compared with meropenem in adult patients with ventilated nosocomial pneumonia (CUBIST VAP)
Steven O'Donoghue		Low molecular weight heparin in critically ill trauma patients: a dosing study (ENACT)
John Gowardman		Intravascular device administration sets: <i>Replacement after Standard Versus Prolonged use (RSVP)</i>
Michael Reade		A multi-centre randomised double blinded phase III trial of the effect of standard issue red blood cell blood units on mortality compared to freshest available red blood cell units (TRANSFUSE)
Jeremy Cohen		Adjunctive corticosteroid treatment in critically ill patients with septic shock: <i>The ADRENAL trial</i>
Robert Boots		Asthma Management in ICU Study (AMIIS)

Intensive Care Services (cont)

Current RBWH Led Research Activity (cont)

RBWH Lead Researchers	Collaborative Researchers (RBWH staff in bold)	Research Project Title
Steven O'Donoghue		Sedation Practices In Intensive Care Evaluation (SPICE III): <i>A prospective multicentre randomised controlled trial of early goal-directed sedation compared with standard care in mechanically ventilated critically ill patients</i>
Jason Roberts		SMARRT – Sa Mpling A ntibiotics in R enal R eplacement Therapy
Jeffrey Lipman		Relative hypotension and acute kidney injury in patients with shock: <i>A prospective multicenter cohort study (REACT Shock)</i>
Jennifer Paratz	Jeffrey Lipman, Robert Boots	Protective manual hyperinflation is safer and as effective as current practices
Jeffrey Lipman	Jason Roberts, Andrew Udy, Robert Boots	Antibiotic dosing in the “at risk” critically ill patient
Jeffrey Lipman	Joel Dulhunty, Jason Roberts	BLING II: A phase IIb randomised controlled trial of continuous beta-lactam infusion compared with intermittent beta-lactam dosing in critically ill patients
Robert Boots	Jennifer Paratz, Jason Roberts	Inhaled Prophylactic Heparin In Ventilator Associated Pneumonia (IPHIVAP)
Jeremy Cohen		Assessment of functional adrenal status in patients with septic shock (PIRATE Study)
Michael Reade		A randomised placebo-controlled trial of dexmedetomidine for agitation and delirium in the intensive care unit (Dexmedetomidine to Lessen ICU Agitation)
Jeffrey Lipman	Geoffrey Playford	Prospective surveillance of invasive fungal infections in Australian intensive care units
John Gowardman		The Paracetamol After Traumatic Brain Injury Study: The PARITY Study
Jason Roberts		Dose optimisation of fluconazole in critically ill patients



Other Current Collaborative Research Activity

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
A Alobaid	Jeffrey Lipman, Jason Roberts	An Investigation of the Pharmacokinetics of Piperacillin/Tazobactam, Meropenem and Fluconazole in Critically Ill Obese Patients

Research Awards and Achievements

Recipient	Award	Event
Fiona Coyer	VC performance award 2015	
Anthony Holley	Meritorious Unit Citation for service with Task Group 66 Australian Operational Services Medal. (Middle East Region)	
Jennifer Paratz	Distinguished Research Medal	RBWH Symposium Oct 2015
Michael Reade	United States of America Army Commendation Medal	
Michael Reade	Operational Service Medal (Greater Middle East Area of Operations)	
Jason Roberts	Young Investigator Awards for Research in Clinical Microbiology and Infectious Diseases	ESCMID Feb 2015
Jeffrey Lipman	Elected to <i>"Fellow of Intensive Care Foundation"</i>	



The Professor Tess Cramond Multidisciplinary Pain Centre

The Professor Tess Cramond Multidisciplinary Pain Centre is a tertiary centre at RBWH offering assessment and care to patients with persistent pain, malignant pain and burns pain. Research is focussed around the assessment and optimal management of pain, factors contributing to persistent pain and the consequences of persistent pain. Research within the unit is collaborative with major universities and the departments of physiotherapy, occupational therapy, psychology within the hospital. Students from UQ School of Pharmacy undertake quality use of medicine projects within the Multidisciplinary Pain Centre each year. Undergraduate honours students and postgraduate students from the allied health fields of psychology, physiotherapy and occupational therapy will often undertake research projects at the centre.

In 2015, Dr Nicole Andrews successfully completed her PhD and published four publications. One of her publications one won the PAIN most cited paper award for the year 2015. PAIN is the official publication of the International Association of the Study of Pain. PAIN has an impact factor of 5.213 and is ranked 1st for Eigenfactor and total citations in the Anaesthesiology journal category (*Thomas Reuters Journal Citation Reports, 2014*).

Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers <i>(RBWH staff in bold)</i>	Research Project Title
Nicole Andrews	Jenny Strong, Pamela Meredith, Julia Fleming , Kellie Gordon, Karl Bagraith, Genevieve Donohue, Rachel D'Arrigo	An Exploration of Overactivity in Chronic Pain

Research Awards and Achievements

Recipient	Award	Event
Nicole Andrews , Jenny Strong, Pamela Meredith, Kellie Gordon, Karl Bagraith	PAIN's 2015 most cited paper award	-



Intensive Care Nursing Professorial Unit

The Intensive Care Nursing Professorial Unit (ICNPU) was established in 2014 as a joint partnership between nursing services in the Intensive Care Unit, RBWH and the School of Nursing, QUT. The ICNPU aim is to provide high level support for optimum continuing professional development of nurses and research to inform nursing practice in a specific clinical environment. Further, the ICNPU is a collaboration between clinical nursing leadership, academic leadership and clinicians to advance the influence of high quality nursing care on patient outcomes. In 2015 the ICNPU was formally operationalised with the appointment of a Professor of Nursing – a joint appointment between the RBWH and the School of Nursing, QUT. Professor Fiona Coyer leads the ICNPU. In 2015 the focus in the ICNPU was to develop a nurse-led, multidisciplinary intensive care research program. This ongoing activity is achieved by focusing on an active intensive care nursing research culture within the service, demonstrating nurse-led research, developing research skills of intensive care nursing staff, creating opportunities for collaborative multidisciplinary research projects. Professor Coyer provides mentorship for intensive care nurses undertaking tertiary studies and guidance and support for grant applications.

A key activity in 2015 was the development of a strategic plan for the ICNPU and the nursing service in the Critical Care and Clinical Support Service (CCandCSS) division. Key meetings were held with nurse leaders culminating in agreed performance targets for 2016 onwards in areas of evidence-based practice and research. Two strategic plans were developed; the ICNPU plan was formally agreed and the finalisation of the CCandCSS plan was ongoing at end-2015. This activity is the cornerstone of future benchmarks and reporting for this service-line. During 2015 there was an increase in the number of presentations at conferences and publication submissions by clinicians. Two clinical nurses completed Masters degrees. Another clinical nurse, a PhD candidate, was the recipient of a RBWH Postgraduate Scholarship.

The ICNPU research focus was the area of skin integrity. A unique multidisciplinary collaborative project, the EXTREME Pressure study, that received RBWH Foundation pilot funding in 2014, was completed in 2015. A strength of this study was the collaboration of nursing, biomedical engineering, physiotherapy, biostatistics and medical ultrasound disciplines and the building of a multidisciplinary team to explore microcirculation and skin perfusion in critically ill patients. Further translational work was undertaken with the commencement of a Health and Medical Research funded fellowship study to imbed evidence-based pressure injury prevention strategies in the intensive care unit; the SUSTAIN study. These studies demonstrate our developing capacity to inform and change clinical practice through our research.

Supervised Post-graduate Research Students

Name	Current Studies University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Hajar Alasmari	PhD, QUT (2015–2016)	Examining Intensive Care Nurses' Clinical decision-making associated with acute kidney injury and continuous renal replacement therapy in Saudi Arabia	Ann Bonner, Fiona Coyer
Jill Campbell	PhD, QUT (2010–2016)	Incontinence-Associated Dermatitis in the Acute Care Setting: <i>An Exploration of the Phenomenon</i>	Fiona Coyer , Sonya Osborne
Sonia Hines	PhD, QUT	An educational intervention to improve nurses' research literacy	Joe Ramsbotham, Fiona Coyer , Erika Hepple
Sandra Johnston	PhD, QUT	Effectiveness of high fidelity simulation as a teaching tool in undergraduate nursing education	Fiona Coyer , Robyn Nash
Kathryn Kynoch	PhD, QUT	A model of demographic, environmental, psychological and information predictors to meet the needs of families with a relative in an intensive care unit	Ann Chang, Fiona Coyer
Nahla Tayyib	PhD, QUT	Use of an interventional patient skin integrity care bundle in the intensive care unit to best manage skin integrity in the critically ill patient	Fiona Coyer , Peter Lewis
Naomi Tutticci	PhD, QUT (2015–)	Critical reflection by undergraduate nursing students in a High Fidelity Simulation: student verses academic facilitated reflection	Fiona Coyer , Peter Lewis, Mary Ryan
Elspeth Dunstan	Master of Nursing, QUT	Safety culture in two Australian tertiary hospital intensive care units: The Scath-ICU study	Fiona Coyer
Adrianna Hada	Masters, QUT	Transforming patient outcomes through improved and effective nursing clinical handover	Fiona Coyer , Leanne Jack

Intensive Care Nursing Professional Unit (cont)

Supervised Post-graduate Research Students (cont)

Name	Current Studies University (duration)	Research Project Title	Supervisors (RBWH staff in bold)
Tarlya Westphall-Jensen	Masters, QUT (2015–)	A comparative analysis of differences in surgical wound complications between negative pressure wound therapy and standard dressings in obese patients	Martin Christensen, Fiona Coyer
Paul Jarrett	Masters, QUT	Administration of antibiotics in the intensive care unit	Fiona Coyer , Martin Christensen, Jason Roberts
Priscilla Pather	Masters, QUT	The incidence and measurement of incontinence associated dermatitis in the intensive care environment	Fiona Coyer , Leanne Jack
Rebecca Rashleigh-Rolls	Masters, QUT	An investigation of infection control interventions and their impact on hospital acquired infection rates	Fiona Coyer , Katie Page
Hannauh Rheault	Doctor Health Science, QUT	Examining the health literacy and chronic disease self-management of remote Aboriginal Australians: <i>A mixed method study</i>	Ann Bonner, Fiona Coyer
Leanne Stone	Doctor Health Science, QUT	Comparing “Magnet” attributes in nursing between Australia and the United States	Alexandra McCarthy, Fiona Coyer

Research Fellows

Name	Type of Fellowship	Research Program	University (years)
Karen Ousey	Adjunct Associate Professor	Skin perfusion and microcirculation in critically ill patients	QUT (2015–2017)

Current RBWH Led Research Activity

RBWH Lead Researchers	Collaborative Researchers (RBWH staff in bold)	Research Project Title
Fiona Coyer	Robyn Fox (Nurse Education) , Alexandra McCarthy (QUT), Amanda Henderson (GU), Ramon Shaban (GU), Karen Theobald (QUT), Bernadette Thompson (PAH)	Academic-industry integration in health: <i>Enhancing postgraduate professional learning</i>
Fiona Coyer	Anthony Holley (Intensive Care Services) , Peter Thomas (Physiotherapy) , Christina Parker (QUT), Mohsina Khatun(UQ), Chris Edwards (QUT), Jessica Ingleman (QUT)	The effect of time spent in a position on critically ill patient’s skin: <i>The EXTREME pressure 2 study</i>
Fiona Coyer	Jill Campbell (Skin Integrity Service) , Amanda Vann (Intensive Care Services) , Greg McNamara (Intensive Care Services) , Jane-Louise Cook (QUT)	Translating evidenced-based pressure injury prevention into the intensive care environment; <i>The SUSTAIN study</i>
Fiona Coyer	Peter Slattery (Biomedical Engineering) , Peter Thomas (Physiotherapy) , Greg McNamara (Intensive Care Services) , Chris Edwards (QUT), Jessica Ingleman (QUT)	Extreme pressure study: exploring pressures, tissue reperfusion and body positioning – a pilot evaluation among critically ill patients
Fiona Coyer	Anne Gardner (ACU), Glenn Gardner (QUT), Helen Gosby (Westmead Hospital)	Educating for health service reform: <i>Clinical learning, governance, and capability</i>

Other Current Collaborative Research Activity

Collaborative Lead Researchers	RBWH Researchers	Research Project Title
Jennifer Paratz (GU), Tracy Comans (GU), Geoff Mitchell (UQ)	Robert Boots (Intensive Care Services), Fiona Coyer (Intensive Care Services), Peter Thomas (Physiotherapy)	Improving outcome in sepsis