



# INTERNAL MEDICINE SERVICES



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**Prof. Keshwar Baboolal**  
**Executive Director**  
Internal Medicine Services, RBWH

Internal Medicine Services has a deep history of involvement in advancing healthcare through research. This is achieved through the tireless efforts of dedicated staff across many disciplines and in all departments. In 2019, collaborations continued to be strong with our university and industry partners, as well as historical links with other health care providers and facilities both in Queensland and across Australia. IMS researchers also have many international collaborators that ensure that our contributions are benefiting not only our own patients, but also health care across the globe.

Having an active research culture not only adds to the body of knowledge of health care, it also allows our patients to access the latest therapies and diagnostics and newest medicines.

IMS staff across all disciplines actively participate and share their research outcomes within the RBWH Symposium, national and international conferences, publications and health forums. The IMS Research teams have received many grants and awards to support their research endeavours through the, RBWH Foundation Research Awards, Special Grants and funding from sources such as NHMRC, among others.

Each department has highlighted their Research achievements, listed those staff involved, documented their publications and presentations and nominated Post Graduate Research Students. This exhaustive list, while extremely impressive, still does not highlight the hours and hours of work that goes into each and every piece of research that is undertaken within this campus.



RBWH patient Chris Harrison (*second from left*) was suffering from the debilitating effects of Parkinson's Disease, until he received life changing Deep Brain Stimulation treatment. Chris is now getting back to the things he loves like fishing and hiking with his family thanks to the treatment he received from the amazing [#RBWH Neurology team](#)



# DEPARTMENT OF CARDIOLOGY

## About this service:

The cardiology department has a broad investigator-driven research program with a focus on health service research/evaluation. This research has grown from clinicians improving models of care with interdisciplinary collaboration.

## Highlights of 2019:

A *telehealth model of stress testing and Holter monitoring* has continued to flourish, with multiple new regional sites commenced across QLD.

To promote ongoing education of doctors and cardiac scientists, the second *Cardiac Imaging in Cardiomyopathies and Heart Failure meeting* was held in Sydney, showcasing the expertise built up around the cardiomyopathy clinic and multimodality cardiac imaging.

We have unique *cardiac obstetric* (collaboration with Internal Medicine and Obstetric Medicine) and *cardiac genetic* (collaboration with Genetic Health Queensland) *clinics* that receive state-wide referrals.

Other research interests include chest pain evaluation (collaboration with Emergency and Internal Medicine departments), using salivary biomarkers to detect presymptomatic heart disease (collaboration with QUT), and investigating the feasibility of training nurses to perform echocardiography to assess left ventricular function.

## Benefits for clinical practice:

*Tele-stress testing and Holter monitoring* has reduced waiting times, increased access (especially Indigenous patients), decreased inequity and improved service quality for regional centres. *Accelerated Chest pain Risk Evaluation (ACRE)* is being actively translated into clinical practice throughout Queensland. We have a *Cardiac Catheter Laboratory database* with comprehensive mandatory complication tracking, which informs the *Queensland Cardiac Outcomes Registry (QCOR)-Intervention*. We also inform *QCOR-Heart Failure, QCOR-Cardiac Rehabilitation and QCOR-EP/pacing*, which are tracking healthcare measures for patients across Queensland.

## Editorial and other key positions held:

- Professor and Clinical Director, Australian Centre for Health Service Innovation, Queensland University of Technology
- Metro North Heart Lung Executive
- Associate Editor, Heart Lung Circulation (2 staff members)
- Editorial board for Cardiac Failure Review
- Editorial board for Medicine Today
- Editorial board for Cardiology Today
- Associate Cardiac Editor, Australasian Journal of Ultrasound in Medicine
- European Cardiac Obstetric Registry (only Australian representative)
- Australian Government Medical Services Advisory Committee (MSAC)
- Royal Australasian College of Physicians Specialist Advisory Committee – QLD representative
- National Heart Foundation Research Committee
- CSANZ Board
- CSANZ Education Trust Board of Trustees
- CSANZ Scientific Committee
- CSANZ Queensland Regional Secretary
- European Society of Cardiology Congress Abstract Review Committee
- European Commission independent expert
- Medicare Benefits Schedule Review Cardiac Services Clinical Committee
- Australian Government Department of Health Clinical Quality Registries Expert Advisory Group
- Australian Genomics Health Alliance- Cardiovascular Genetic Disorders Flagship
- Australian Cardiac Genetic Testing (AGCT) collaborative
- Australia and New Zealand Alliance for Cardiovascular Trials Scientific Advisory Committee
- Brisbane Diamantina Health Partners Evidence and Innovation in Clinical Care Theme Leadership Group
- Queensland Heart Failure Service Steering Committee (Co-chair)
- Queensland Cardiovascular Research Network Steering Committee
- President ANZ Cardiac Magnetic Resonance (ANZCMR)
- Society of Cardiovascular Computed Tomography Education Committee.

## 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>Roberts, Tiffany</b>	MPhil	Rural Hospital Chart Audit on Cardiac Investigations	<b>Adam Scott</b> , Robert Mullins
<b>Martin, Curtis</b>	Honours	Remote Control Exercise Stress Testing	<b>Adam Scott</b>
<b>Poulter, Rohan</b>	PhD, UQ <i>(from 2012)</i> <i>(part-time, deferred)</i>	Evaluating the diagnostic performance of dual energy cardiac computed tomography	<b>John Atherton, John Younger</b>
<b>Lo, Ada</b>	PhD, UQ <i>(from 2014)</i> <i>(part-time)</i>	Identification of new echocardiographic parameters in distinguishing between familial cardiomyopathy genotypic positive patients with and without phenotypic expression	<b>John Atherton</b> , Arnold Ng, William Wang, <b>Kristyan Guppy-Coles, Sandhir Prasad</b>
<b>Lancini, Daniel</b>	PhD, UQ <i>(from 2015)</i> <i>(part-time)</i>	Atrial fibrillation in the hospital setting	<b>Paul Martin, Sandhir Prasad, John Atherton, Louise Cullen, Robert Boots</b>
<b>Prasad, Sandhir</b>	PhD, UQ <i>(from 2017)</i> <i>(part-time)</i>	Left ventricular diastolic dysfunction following myocardial infarction: prevalence, predictors and prognosis	<b>John Atherton, John Younger, Kristyan Guppy-Coles</b>
<b>Conradie, Andre</b>	MPhil, UQ <i>(from 2016)</i> <i>(part-time)</i>	Determining an absolute risk model (calculator) to optimise the use of DAPT in patients presenting with acute coronary artery syndromes. use of DAPT in patients presenting with acute coronary artery syndromes	<b>John Atherton</b> , Stephen Worthley, D Eccleston
<b>Wicramasingha Arachchilage, Nuwan</b>	Master App Sci (Res), QUT <i>(from 2017)</i>	The clinical utility of salivary galectin-3 in heart failure	Chamindie Punyadeera, Nathan Subramaniam, <b>John Atherton</b>
<b>McCreanor, Victoria</b>	PhD, QUT <i>(graduated 2019)</i>	Identifying high value care for stable coronary artery disease in Australia. Prof Nick Graves	N Graves, A Barnett, <b>William Parsonage</b>
<b>Nirmal Gautam</b>	PhD, QUT <i>(from 2020)</i>	Current situation and Lifestyle Management to Combat for Non-Communicable Diseases in Australia	Sanj Kularatna, David Brain, <b>William Parsonage</b>
<b>Michael Bishop</b>	Grad Cert <i>(from 2019)</i>	TBC	<b>William Parsonage</b>
<b>Dane Robinson</b>	Grad Cert <i>(from 2019)</i>	TBC	<b>William Parsonage</b>
<b>Jeffrey Rowland</b>	Grad Cert <i>(graduated 2019)</i>	Implementation of 4F employing gamification	<b>William Parsonage</b> , Elizabeth Whiting
<b>Anthony Bligh</b>	Grad Cert <i>(graduated 2019)</i>	CBTp evaluation – Metro North Mental Health Implementation	<b>William Parsonage</b> , Ross Young

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Programt	Affiliated University/ies
<b>Leeanne Palethorpe</b>	Clinical trials coordinator		Research funded (clinical trials)	Cardiology clinical trials	No
<b>Linda Hindom</b>	Clinical trials coordinator		Research funded (clinical trials)	Cardiology clinical trials	No
<b>Lydia Lilwall</b>	Clinical trials coordinator		Research funded (clinical trials)	Cardiology clinical trials	No
<b>William Parsonage</b>	Professor and Clinical Director	0.2	Queensland University of Technology	Australian Centre for Health Service Innovation	Queensland University of Technology <i>(2016-current)</i>
<b>William Parsonage</b>	Senior Lecturer	NA	In-kind	Faculty of Medicine	University of Queensland <i>(2003-current)</i>
<b>Adam Scott</b>	Adjunct Professor	NA	In-kind	Faculty of Health	Queensland University of Technology <i>(2009–2021)</i>
<b>John Atherton</b>	Professor of Cardiology and Heart Failure Management	NA	In-kind	Faculty of Science, Health, Education and Engineering	University of Sunshine Coast <i>(2017-2020)</i>
<b>John Atherton</b>	Adjunct Professor	NA	In-kind	Faculty of Health	Queensland University of Technology <i>(2018-2020)</i>
<b>John Atherton</b>	Associate Professor	NA	In-kind	Faculty of Medicine	University of Queensland <i>(2002-current)</i>



## RBWH Research Staff with research roles, positions or appointments e.g. Coordinators, etc (cont)

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>John Atherton</b>	Honorary Fellow	NA	In-kind	Department of Medicine, Royal Melbourne Hospital, Faculty of Medicine, Dentistry and Health Sciences	The University of Melbourne (2017-2021)
<b>Arun Dahiya</b>	Adjunct Associate Professor	NA	In-kind	Faculty of Health	Griffith University (2015-current)
<b>Sandhir Prasad</b>	Associate Professor	NA	In-kind	Faculty of Medicine, Dentistry and Health	Griffith University (2019-current)
<b>Louise McCormack</b>	Senior Lecturer	NA	In-kind	Faculty of Medicine	University of Queensland
<b>Louise McCormack</b>	Royal Brisbane Clinical Unit Medical Student Coordinator	0.2 FTE	External	Faculty of Medicine	University of Queensland
<b>Kris Guppy-Coles</b>	Honorary Research Fellow	0.4 FTE	Heart Foundation Vanguard Grant	Cardiology, RBWH	University of Queensland

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Adam Scott</b>	<b>Adam Scott, Alice McDonald, Tiffany Roberts, John Atherton, Paul Scuffham</b>	Tele-Cardiac Investigations to support rural/regional hospitals
<b>Kristyan Guppy-Coles, John Atherton, Sandhir Prasad</b>	<b>Arun Dahiya, Arnold Ng, Kym Smith, Ada Lo, Sam Hillier</b>	Novel 3D echocardiography techniques of left ventricular functional assessment: utilisation in routine clinical practice and screening
<b>Ada Lo, John Atherton, Kristyan Guppy-Coles</b>	Arnold Ng, William Wang, <b>Sandhir Prasad</b>	Identification of new echocardiographic parameters in distinguishing between familial cardiomyopathy genotypic positive patients with and without phenotypic expression
<b>Sandhir Prasad, John Atherton, John Younger, Kristyan Guppy-Coles</b>	Liza Thomas, Tony Stanton, <b>James Anderson, Ada Lo, Joanne Sippel, Christopher Kwan, Kym Smith</b>	Left ventricular diastolic dysfunction following myocardial infarction: prevalence, predictors and prognosis
<b>Sandhir Prasad, John Atherton, Kristyan Guppy-Coles, Po-Ling Inglis, Joanne Sippel</b>	<b>Kym Smith, Ada Lo, Arun Dahiya</b>	Evaluation of oncology staff performing 3D-echocardiographic left ventricular function assessment for monitoring chemotherapy-induced cardiotoxicity
<b>Kristyan Guppy-Coles, Sandhir Prasad, John Atherton, Ada Lo</b>	<b>Kym Smith, Patrick Beard, James Armstrong, Terena Truloff</b>	Feasibility and accuracy of assessing left ventricular systolic function by measuring mitral annular excursion using a hand-held echocardiography device with an automated atrioventricular-plane tracking algorithm
<b>Cullen L, Parsonage W, McCormack L, Greenslade J</b>	Cullen L, <b>Parsonage W, McCormack L</b> , Milburn T, Starmer G, Stone R, Starmer K, <b>Greenslade J</b>	The impact of ImpACT: A protocol to improve emergency chest pain assessment
<b>Daniel Lancini, Paul Martin, Sandhir Prasad</b>	Rob Boots	New onset atrial fibrillation in the critically ill
<b>Daniel Lancini, Paul Martin, Sandhir Prasad</b>	<b>Louise Cullen, Jaimi Greenslade</b>	Atrial fibrillation in the emergency chest pain presentation
<b>Arun Dahiya, Rick Jackson</b> <i>(Logan Hospital)</i>	<b>Arun Dahiya</b>	Advanced Cardiovascular Imaging in Patients with Myotonic Dystrophy

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Chamindie Punyadeera, <b>John Atherton</b> , Benjamin Schulz, Goce Dimeski, Karam Kostner <i>(QUT)</i>	<b>John Atherton</b>	Novel diagnostics for heart failure
Robyn Clark, Alexandra McCarthy, <b>John Atherton</b> , Bogda Koczwarra, Narelle Berry, Tania Marin, Kerri Gillespie, Jonathon Foote, Sina Vatandoust. <i>(Flinders University)</i>	<b>John Atherton</b>	Development of a cardiotoxicity cardiovascular risk assessment tool
Sanjoy Paul, Olga Montvida, <b>John Atherton</b> , Kerenafali Klein, Julius Agbeve <i>(QIMR)</i>	<b>John Atherton</b>	Evaluation of the association of old and new anti-diabetes drugs with the risk of heart failure in patients with type 2 diabetes
Joseph Selvanayagam, Sanjay Prasad, Andrew McGavigan, Graham Hillis, Werner Jung, Laurent Billot, Suchi Grover, <b>John Atherton</b> <i>(SAHMR)</i>	<b>John Atherton, John Younger, Paul Martin</b>	Cardiovascular Magnetic Resonance GUIDEd management of mild-moderate left ventricular systolic Heart Failure (CMR GUIDE HF)
Briffa T, <b>Cullen L</b> , Chew D, Knuiman M, Fatovich D, Hickman P, <b>Parsonage W</b> , Nedkoff L, Sanfilippo F, Hillis G, Mitra B, Wilkes G, Schneider H, Rankin J, Karnon J, Scanlan S, Stapleton S, Mather V	<b>William Parsonage, Louise Cullen</b>	Is highly-sensitive troponin testing advancing clinical practice, improving outcomes and cost-effective in the investigation and management of chest pain in the Emergency Department?
Elizabeth Sullivan, Rachael Cordina Dominica Zentner, Michael Peek Rachael Cordina, Lisa Simmons Lawrence Lam, David Celermajer, Wendy Pollock, <b>Karin Lust</b> , Jon Hyett, <b>William Parsonage</b> , Zhuoyang Li	<b>William Parsonage</b>	Australasian Maternity Outcomes Surveillance System (AMOSS) longitudinal study of first-time NSW/ACT mothers with heart disease and their babies
Tom Marwick, Liza Thomas, Andrew Taylor, Andrew Spencer, Andre La Gerche, Con Tam, Sherene Loi, Peter Mollee, <b>John Atherton</b> , Paul Harnett <i>(Baker IDI)</i>	<b>John Atherton, Sandhir Prasad, Joanne Sippel, Arun Dahiya, Louise McCormack, John Younger</b>	Benefit of 2D-strain surveillance in improving cardiovascular outcomes in cancer patients undergoing cardiotoxic chemotherapy
Sanjeeva Kularatna, Nicholas Graves, <b>William Parsonage</b> <i>(AusHSI/QUT)</i>	<b>William Parsonage</b>	Feasibility of using Smartphone app to collect patient reported outcome measurement on patients with cardiovascular disease
Sanjeeva Kularatna, Paul Scuffham, <b>William Parsonage</b> , Joshua Byrnes, Gang Chen, <b>John Atherton</b> <i>(AusHSI, QUT, Griffith)</i>	<b>William Parsonage, John Atherton</b>	Development of cardiovascular disease specific multi attribute utility instrument to assist utility measurement in cardiovascular conditions; a case for economic evaluations
<b>William Parsonage</b> , Victoria McCreanor, Alexandra Nowbar, Christopher Rajkumar, Adrian Barnett, Darrel P Francis, Nicholas Graves, William Boden, William Weintraub, Rasha Al-Lamee	<b>William Parsonage</b>	Cost-effectiveness analysis of percutaneous coronary intervention for single vessel coronary artery disease: An economic evaluation of the ORBITA trial

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Adam Scott</b>	Winner m-Health and Coronary Artery Disease Pitch Session	European Society of Cardiology Congress, Paris, France

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Briffa T, <b>Cullen L</b> , Chew D, Knuiman M, Fatovich D, Hickman P, <b>Parsonage W</b> , Nedkoff L, Sanfilippo F, Hillis G, Mitra B, Wilkes G, Schneider H, Rankin J, Karnon J, Scanlan S, Stapleton S, Mather V	Cardiology and Emergency Medicine	Is highly-sensitive troponin testing advancing clinical practice, improving outcomes and cost-effective in the investigation and management of chest pain in the Emergency Department?	National Health and Medical Research Council (Project Grant APP1122792)	\$1,197,000.00		2017-2020
T Marwick, L Thomas, A Taylor, A Spencer, A La Gerche, C Tam, S Loi, P Mollee, <b>J Atherton</b> , P Harnett	Cardiology and Oncology	Benefit of 2D-strain surveillance in improving cardiovascular outcomes in cancer patients undergoing cardiotoxic chemotherapy	National Health and Medical Research Council (Project Grant APP 1119955)	\$2,391,979.00	\$478,395.80	2017-2021



## Research Grants *(cont)*

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Adam Scott, John Atherton</b>	Tele-Cardiac Investigations/ Cardiology RBWH	Statewide Tele-Cardiac Investigations	Health Improvement Unit, Metro North HHS, Qld Health	\$1,629,000.00	\$543,000.00	2017-2019
<b>J Atherton, C Punyadeera, X Zhang, N Karunathilake, K Guppy-Coles</b>	Cardiology	Salivary protein panel to detect heart failure early	Royal Brisbane and Women's Hospital Project Grant	\$29,294.00	\$29,294.00	2019
<b>J Greenslade, L Cullen, W Parsonage, S Perez, N Graves</b>	Cardiology and Emergency Medicine	The Limit of Detection in the Emergency Department Trial (LEGEND)	Medical Research Future Fund (MRFF) Rapid Applied Research Translation Program	\$194,682		2019-2021
<b>J Greenslade, L Cullen, W Parsonage, S Perez, F Kinnear, Hamilton-Craig, N aikwad, D Brain</b>	Cardiology and Emergency Medicine	The Limit of Detection in the Emergency Department Trial (LEGEND).	Emergency Medicine Foundation	\$93,240		2019-2020

## 2019 Research Publications

### Journal Articles

- Roos-Hesselink JW, Baris L, Johnson M, De Backer J, Otto C, Marelli A, Jondeau G, Budts W, Grewal J, Sliwa K, **Parsonage WA**, Maggioni A, Hagen IM, Vahanian A, Tavazzi L, Elkayam U, Boersma E, Hall R. Pregnancy outcomes in women with cardiovascular disease: evolving trends over 10 years in the ESC Registry Of Pregnancy And Cardiac disease (ROPAC). *Eur Heart J* 2019; 40:3848-55
- Lam CSP, Castillo R, Ho DT, Kasliwal RR, Khurana R, Naik S, Omland T, **Parsonage WA**, Phrommintikul A, Tobing D, Yiu KKH. High-sensitivity troponin I for cardiovascular risk stratification in the general asymptomatic population: Perspectives from Asia-Pacific. *Int J Cardiol* 2019; 282:93-8
- Nestelberger T, **Cullen L**, Lindahl B, Reichlin T, **Greenslade J**, Giannitsis E, Christ M, Morawiec B, Miro O, Martín-Sánchez FJ, Wussler DN, Koechlin L, Twerenbold R, **Parsonage WA**, Boeddinghaus J, Gimenez MR, Puelacher C, Wildi K, Buerge T, Badertscher P, DuFaydeLavallaz J, Strebel I, Croton L, Bendig G, Osswal S, Pickering JW, Than M, Mueller C. Diagnosis of acute myocardial infarction in the presence of left bundle branch block. *Heart* 2019; 0:1-9. doi:10.1136/heartjnl-2018-314673
- Neumann JT, Twerenbold R, Ojeda F, Sørensen NA, Chapman AR, Shah ASV, Anand A, Boeddinghaus J, Nestelberger T, Badertscher P, Mokhtari A, Pickering JW, Troughton RW, **Greenslade J**, **Parsonage WA**, Mueller-Hennessen M, Gori T, Jernberg T, Morris N, Liebetrau C, Hamm C, Katus HA, Münzel T, Landmesser U, Salomaa V, Iacoviello L, Ferrario MM, Giampaoli S, Kee F, Thorand B, Peters A, Borchini R, Jørgensen T, Söderberg S, Sans S, Tunstall-Pedoe H, Kuulasmaa K, Renné T, Lackner KJ, Worster A, Body R, Ekelund U, Kavsak PA, Keller T, Lindahl B, Wild P, Giannitsis E, Than M, **Cullen LA**, Mills NL, Mueller C, Zeller T, Westermann D, Blankenberg S. Application of high-sensitivity troponin in suspected myocardial infarction. *New Engl J Med* 2019; 380:2529-40
- McCreanor V, **Parsonage WA**, Whiteman DC, Olsen C, Barnett AG, Graves N. Pharmaceutical use and costs in patients with coronary artery disease, using Australian observational data. *BMJ Open* 2019;9: doi: 10.1136/bmjopen-2019-029360
- Nestelberger T, Boeddinghaus J, **Greenslade J**, **Parsonage WA**, Than M, Wussler D, Lopez-Ayala P, Zimmermann T, Meier M, Troester V, Badertscher P, Koechlin L, Wildi K, Anwar M, Freese M, Keller DJ, Reichlin T, Twerenbold R, Cullen L, Mueller C. Two-hour algorithm for rapid triage of suspected acute myocardial infarction using a high-sensitivity cardiac troponin I assay. *Clin Chem* 2019; 65:1437-47
- Dawson AJ, Krastev Y, **Parsonage WA**, Peek M, **Lust K**, Sullivan EA. Experiences of women with cardiac disease in pregnancy: a systematic review and metasynthesis. *BMJ Open* 2018;8: doi: 10.1136/bmjopen-2018-022755. (not included in 2018 report)
- Kavsak PA, Neumann JT, **Cullen L**, Than M, Shortt C, **Greenslade J**, Pickering JW, Ojeda F, Ma J, Clayton N, Sherbino J, Hill SA, McQueen M, Westermann D, Sørensen NA, **Parsonage WA**, Griffith L, Mehta SR, Devereaux PJ, Richards M, Troughton R, Pemberton C, Aldous S, Blankenberg S, Worster A. 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. *CMAJ* 2018;190: E974-E984. (not included in 2018 report)
- Sekuloski S, Batzloff MR, **Griffin P**, **Parsonage WA**, Elliott S, Hartas J, O'Rourke P, Marquart L, Pandey M, Rubin FA, Carapetis J, **McCarthy J**, Good MF. Evaluation of safety and immunogenicity of a group A streptococcus vaccine candidate (MJ8VAX) in a randomized clinical trial. *PLoS ONE* 2018;13: e0198658. (not included in 2018 report)
- Zhang X, Broszczak D, Kostner K, **Guppy-Coles KB**, **Atherton J**, Punyadeera C. Salivary protein panel to diagnose systolic heart failure. *Biomolecules* 2019; 9:766 (doi:10.3390/biom9120766)- accepted 19/11/19
- Prasad SB**, Camuglia A, **Lo A**, Holland DJ, **Guppy-Coles K**, Whalley G, Thomas L, **Atherton J**. Hemodynamic validation of the E/e' ratio as a measure of left ventricular filling pressure in patients with non-ST elevation myocardial infarction. *Am J Cardiol* 2019 (in press) – accepted 13/11/19
- Brieger D, **Atherton J**, Newton P. ESC Congress Paris 2019: conference highlights. *Cardiology Today* 2019;9(2):81-91
- Hopper I, Connell C, Briffa T, De Pasquale CG, Driscoll A, Kistler PM, Macdonald PS, Sindone A, Thomas L, **Atherton J**. Nutraceuticals in heart failure: A systematic review. *J Cardiac Fail* 2019 (in press) – accepted 30/10/19
- Zhang X, Karunathilaka N, Senanayake S, Subramaniam N, Chan W, Kostner K, Fraser J, **Atherton J**, Punyadeera C. The potential prognostic utility of salivary galectin-3 concentrations in heart failure. *Clin Res Cardiol* 2019 (in press)- accepted 24/9/19

## Journal Articles (cont)

15. **Prasad SB, Guppy-Coles KB**, Holland D, Stanton T, Krishnasamy R, Whalley G, **Atherton J**, Thomas L. Echocardiographic predictors of all-cause mortality in patients with left ventricular ejection fraction > 35%: Value of guideline based assessment of diastolic dysfunction. *IJC Heart and Vasculature* 2019; 24: (in press)- accepted 1/9/19. doi.org/10.1016/j.ijcha.2019.100407
16. Tee SL, Sindone A, Roger S, **Atherton J**, Amerena J, D'Emden M, Erlich J, De Pasquale C. Hyponatremia in Heart Failure. *Int Med J* 2019 (in press) – accepted 26/8/19
17. Clark RA, Marin T, McCarthy AL, Grover S, Peters R, Karapetis CS, **Atherton J**, Koczwara B. Cardiotoxicity after cancer treatment: a process map of the patient treatment journey. *Cardio-Oncology* 2019; 5:14
18. Deed G, **Atherton J**, **d'Emden M**, Rasalam R, Sharma A, Sindone A. Managing cardiovascular risk in type 2 diabetes: What do the cardiovascular outcome trials mean for Australian practice? *Diab Ther* 2019; 10:1625-43
19. **Atherton J**, Audehm R, Connell C. Heart failure guidelines. A concise summary for the GP. *Medicine Today* 2019; 20:14-24
20. **Prasad S, Guppy-Coles K**, Stanton T, **Armstrong J**, Krishnasamy R, Whalley G, **Atherton J**, Thomas L. Relation of left atrial volumes in patients with myocardial infarction to left ventricular filling pressures and outcomes. *Am J Cardiol* 2019; 124:325-33
21. **Guppy-Coles KB, Prasad SB, Smith KC, Lo A, Beard P, Ng A, Atherton J**. Accuracy of cardiac nurse acquired and measured three-dimensional echocardiographic left ventricular ejection fraction: comparison to echosonographer. *Heart Lung Circ* 2019 (in press)- accepted 10/4/19
22. **Prasad S**, Holland DJ, **Atherton J**, Whalley G. New diastology guidelines: Evolution, validation and impact on clinical practice. *Heart Lung Circ* 2019; 28:1411-20. (commissioned review)
23. Triposkiadis F, Butler J, Abboud FM, Armstrong PW, Adamopoulos S, **Atherton J**, Backs J, Bauersachs J, Burkhoff D, Bonow RO, Chopra VK, de Boer RA, de Windt L, Hamdani N, Hasenfuss G, Heymans S, Hulot J-S, Konstam M, Lee RT, Linke WA, Lunde IG, Lyon AR, Maack C, Mann DL, Mebazaa M, Mentz RJ, Nihoyannopoulos P, Papp Z, Parissis J, Pedrazzini T, Rosano G, Rouleau J, Seferovic PM, Shah AM, Starling RC, Tochetti CG, Trochu J-N, Thum T, Zannad F, Brutsaert DL, Segers VF, De Keulenaer GW. The continuous heart failure spectrum. Moving beyond an ejection fraction classification. *Eur Heart J* 2019; 40:2155-163
24. Grover S, Lloyd R, Perry R, Lou PW, Haan E, Yeates L, Woodman R, **Atherton J**, Semsarian C, Selvanayagam JB. Assessment of myocardial oxygenation, strain and diastology in MYBPC3-related hypertrophic cardiomyopathy: a cardiovascular magnetic resonance and echocardiography study. *Eur Heart J Cardiovasc Imaging* 2019; 20:932-8
25. Montvida O, Green J, **Atherton J**, Paul S. Treatment with incretins does not increase the risk of pancreatic diseases compared to older anti-hyperglycaemic drugs, when added to metformin: real world evidence in people with type 2 diabetes. *Diabet Med* 2019; 36:491-8
26. Metra M, Teerlink JR, Cotter G, Davison BA, Felker GM, Filippatos G, Greenberg BH, Pang PS, Ponikowski P, Voors AA, Adams KF, Anker SD, Arias-Mendoza A, Avendaño P, Bacal F, Böhm M, Bortman G, Cleland JGF, Cohen-Solal A, Crespo-Leiro MG, Dorobantu M, Echeverría LE, Ferrari R, Golland S, Goncalvesová E, Goudev A, Køber L, Lema-Osores J, Levy PD, McDonald K, Manga P, Merkely B, Mueller C, Pieske B, Silva-Cardoso J, Špinar J, Squire I, Stępińska J, Van Mieghem W, von Lewinski D, Wikström G, Yilmaz MB, Hagner N, Holbro T, Hua TA, Sabarwal SV, Severin T, Szecsódy P, Gimpelewicz C; RELAX-AHF-2 Committees Investigators. Effects of serelexin in patients with acute heart failure. *New Engl J Med* 2019; 381:716-26. (**Atherton J**: National PI)
27. Fabris E, van't Hof A, Hamm CW, Lapostolle F, Lassen JF, Goodman SG, ten Berg JM, Bolognese L, Cequier A, Chettibi M, **Hammett CJ**, Huber K, Janzon M, Merkely B, Storey RF, Zeymer U, Cantor WJ, Kerneis M, Diallo A, Vicaut E, Montalescot G. Pre-Hospital administration of Ticagrelor in diabetic patients with ST-elevation myocardial infarction undergoing primary angioplasty: A sub-analysis of the ATLANTIC trial. *Catheter Cardiovasc Interv* 2019; 93(7):e369-377
28. Fabris E, van't Hof A, Hamm CW, Lapostolle F, Lassen JF, Goodman SG, ten Berg JM, Bolognese L, Cequier A, Chettibi M, **Hammett CJ**, Huber K, Janzon M, Merkely B, Storey RF, Zeymer U, Tsatsaris A, Cantor WJ, Kerneis M, Diallo A, Vicaut E, Montalescot G. Clinical impact and predictors of complete ST segment resolution after primary percutaneous coronary intervention: A sub-analysis of the ATLANTIC trial. *Eur Heart J Acute Cardiovasc Care* 2019; 8(3): 208-217
29. **Lancini D, Shetty R**. Tension pneumothorax: A Brugada phenocopy and ST-elevation myocardial infarction mimic. *Eur Heart J* 2019 (accepted for publication, undergoing editorial process)
30. **Lancini D, Shetty R**. Spontaneous transcatheter migration of a ventriculoperitoneal shunt. *Eur Heart J* 2019 Sep 12 (Epub ahead of print)
31. **Boyle S**, Jesuthasan LSB, Jenkins C, Challa P, Ranjan S, **Dahiya A**. Coronary-Cameral fistula. *Circ Cardiovasc Imaging* 2019 May;12(5):e008691
32. Reyaldeen R, Burrage M, Jeffries C, Lim R, **Dahiya A**. Tetralogy of Fallot, bicuspid valves and a single origin coronary: uncorrected and asymptomatic. *Heart Lung Circ.* 2019;28(3):e26-e28
33. **Dahiya A, Chao C, Younger J, Hammett C**. Early diagnosis of a systemic disease by CMR prevents complications SCMR COTW Number 19-04.

## Books

1. **Atherton J (Supplement Editor)**: Focus on heart failure. *Medicine Today* 2019;20(10 Suppl):1-40.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **Atherton J**. GenesisCare Annual Cardiology Symposium, Brisbane, November 2019. Topic: Heart failure guidelines and research update (Guest keynote lecture)
2. **Atherton J**. GenesisCare Annual Cardiology Symposium, Brisbane, November 2019. Panel discussion: Optimal management of heart failure



## Invited Speakers (cont)

3. **Atherton J.** Cardiac Imaging in Cardiomyopathies 2019, Westmead Hospital, Sydney, November 2019. (Australasian Society for Ultrasound in Medicine (ASUM)) Topic: Guideline-based imaging in HFrEF
4. **Atherton J.** Cardiac Imaging in Cardiomyopathies 2019, Westmead Hospital, Sydney, November 2019. (Australasian Society for Ultrasound in Medicine (ASUM)) Topic: Screening for heart failure: Is imaging a solution?
5. **Atherton J.** HealthEd National Webcast, October 2019. Topic: Shifting paradigms in prevention and management of heart failure- Implications for GP's and cardiologists
6. **Atherton J.** Australian Atherosclerosis Society (AAS), Victoria University, Melbourne, October 2019. Topic: Genetic testing for heart disease 2019
7. **Atherton J.** Australian Clinical Trials Alliance (ACTA) International Clinical Trials Conference 2019, International Convention Centre (ICC), Sydney, October 2019. Topic: Late-breaking discoveries: Breakthroughs in heart failure treatment
8. **Atherton J.** 24<sup>th</sup> ASEAN Federation Congress of Cardiology (24<sup>th</sup> AFCC) in conjunction with the 28<sup>th</sup> Annual Scientific Meeting of the Indonesian Heart Association, Jakarta, Indonesia, September 2019. Topic: ADHF: Turning pitfalls into opportunities
9. **Atherton J.** 24<sup>th</sup> ASEAN Federation Congress of Cardiology (24<sup>th</sup> AFCC) in conjunction with the 28<sup>th</sup> Annual Scientific Meeting of the Indonesian Heart Association, Jakarta, Indonesia, September 2019. Topic: How to deal with HFpEF
10. **Atherton J.** 24<sup>th</sup> ASEAN Federation Congress of Cardiology (24<sup>th</sup> AFCC) in conjunction with the 28<sup>th</sup> Annual Scientific Meeting of the Indonesian Heart Association, Jakarta, Indonesia, September 2019. Topic: Genetic testing in cardiovascular disease: Current applications in daily practice
11. **Atherton J.** ImpediMed Heart Failure Medical Advisory Board, Philadelphia, Pennsylvania, USA. Topic: Heart failure management guidelines – The role of remote/ at-home monitoring
12. **Atherton J.** WFUMB 2019 Congress – The World Congress for Ultrasound – ASUM 2019, Melbourne Convention and Exhibition Centre, Melbourne, September 2019. Topic: Screening for LV dysfunction – role of ultrasound
13. **Atherton J.** South Australian Health and Medical Research Institute (SAHMRI) Clinical Trials Forum, Paris, France, September 2019. Topic: European Society of Cardiology Heart Failure Update
14. **Atherton J.** 67<sup>th</sup> Annual Scientific Meeting of the Cardiac Society of Australia and New Zealand, Adelaide Convention Centre, Adelaide, August 2019. Topic: HF and AF – when to consider ablation
15. **Atherton J.** 2019 Cardiology Masterclass, Western Australian Heart and Vascular Research Institute and The Harry Perkins Institute of Medical Research, Perth, July 2019. Topic: The role of precision medicine – Biomarkers and genetic testing in the patient with a failing heart
16. **Atherton J.** 4<sup>th</sup> Heart Failure Congress 2019, Brisbane Convention and Exhibition Centre, Brisbane, June 2019. Topic: Workshop: Challenging case studies with panel discussion – complex multi-comorbidities
17. **Atherton J.** Canberra Hospital Dinner Meeting, Canberra, June 2019. Topic: Management of heart failure according to the guidelines
18. **Atherton J.** Advanced Echo Symposium Dinner Meeting, Brisbane, May 2019. Topic: Guideline-based imaging in heart failure
19. **Atherton J.** Royal Australian College of General Practitioners 61<sup>st</sup> Clinical Update Weekend, Brisbane Convention and Exhibition Centre, Brisbane, May 2019. Topic: Chronic heart failure
20. **Atherton J.** ADVANCE Symposium, Park Royal Hotel, Melbourne, March 2019. Topic: Workshop- HFrEF management after RAAS blockers and beta blockers
21. **Dahiya A.** ASUM Cardiac Imaging in Cardiomyopathies Meeting, Westmead Hospital, Sydney, November 2019. Topic: Cardiac Imaging in HCM
22. **Dahiya A.** ASUM Cardiac Imaging in Cardiomyopathies Meeting, Westmead Hospital, Sydney, November 2019. Topic: Cardiac Imaging in ARVD
23. **Dahiya A.** Advanced Echo Symposium, Brisbane Convention and Exhibition Centre, Brisbane, May 2019. Topic: Multimodality imaging in ARVC
24. **Dahiya A.** Advanced Echo Symposium, Brisbane Convention and Exhibition Centre, Brisbane, May 2019. Topic: Read with an expert in complex cardiac imaging cases
25. **Dahiya A.** Amyloidosis 2019 Scientific meeting – PA Amyloidosis Centre, May 2019. Topic: Cardiac imaging in Amyloidosis
26. **Dahiya A.** World Congress of Ultrasound in Medicine, Melbourne Convention and Exhibition Centre, Melbourne, September 2019. Topic: Cardiac Imaging in ARVC
27. **Dahiya A.** World Congress of Ultrasound in Medicine, Melbourne Convention and Exhibition Centre, Melbourne, September 2019. Topic: Multimodality imaging in Adult congenital heart disease cases
28. **Hammett CJ.** Asia Pacific Thrombosis Management Conference 2019. Sydney, October 2019. Topic: Plenary and Workshops: Balancing Thromboembolic and Bleeding Risks in Stroke Prevention
29. **Hammett CJ.** COMPASS Summit: Optimizing Patient Care in CAD and/or PAD Patients in Asia Pacific, Seoul, Korea, March 2019. Topic: Workshops: Who are the right patients for the Vascular dose of Rivaroxaban?
30. **Hammett CJ.** STEMI Experts 2019. Sydney October 2019. Topic: Queensland STEMI Healthcheck (QCOR and QAS STEMI data review)
31. **Hammett CJ.** Cardiac Society of Australia and New Zealand 67<sup>th</sup> Annual Scientific Meeting, Adelaide, August 2019. Topic: Managing NVAf Patients with Renal Impairment; Balancing Thromboembolic and Bleeding Risks
32. **Hammett CJ.** Cardiac Society of Australia and New Zealand 67<sup>th</sup> Annual Scientific Meeting, Adelaide, August 2019. Topic: Clinical Conundrums. Antiplatelet and antithrombotic therapy for ACS
33. **Hammett CJ.** Thrombosis 360 Masterclass, Sydney, June 2019. Topic: Workshop: Treating the patient with concurrent AF and ACS
34. **Hammett CJ.** Bayer Thrombosis College Cardiovascular Alliance 5<sup>th</sup> Annual Meeting, Sydney, May 2019. Topic: Plenary talk and workshops – Dual Pathway Inhibition (Antiplatelets and Antithrombotics) – The new standard in Vascular Protection?
35. **Hammett CJ.** SAHMRI Heart Symposium Adelaide, May 2019. Topic: Antiplatelets and Antithrombotics in Cardiovascular Disease
36. **Lo A.** Cardiac Imaging in Cardiomyopathies 2019, Westmead Hospital, Sydney, November 2019. (Australasian Society for Ultrasound in Medicine (ASUM)) Topic: Tips and Tricks in Echocardiography of Hypertrophic Cardiomyopathy

## Invited Speakers (cont)

37. **Lo A.** WFUMB 2019 Congress – The World Congress for Ultrasound – ASUM 2019, Melbourne Convention and Exhibition Centre, Melbourne, September 2019. Topic: Echocardiographic Assessment of Aortic Regurgitation
38. **Lo A.** WFUMB 2019 Congress – The World Congress for Ultrasound – ASUM 2019, Melbourne Convention and Exhibition Centre, Melbourne, September 2019. Topic: Echocardiographic Assessment of Aortic Stenosis
39. **Lo A.** WFUMB 2019 Congress – The World Congress for Ultrasound – ASUM 2019, Melbourne Convention and Exhibition Centre, Melbourne, September 2019. Topic: Simple Adult Congenital Heart Disease
40. **Parsonage WA.** Evidence to Practice: Heart Symposium, 2019, South Australian Health and Medical Research Institute, Adelaide
41. **Parsonage WA.** National Heart Foundation Australia, Women & Heart Disease Forum: Advances in understanding risk, diagnosis and management. Sydney, June 2019. Topic: Update on the final ROPAC (Registry Of Pregnancy And Cardiac disease)
42. **Parsonage WA.** Toowoomba Hospital Grand Rounds, September 2019. Topic: Value based healthcare
43. **Parsonage WA.** Society of Obstetric Medicine of Australia and New Zealand, Annual Scientific Meeting, Melbourne October 2019. Topic: Risk stratification of Women with Cardiac Disease in Pregnancy
44. **Prasad SB.** ASUM Cardiac Imaging in Cardiomyopathies Meeting, Westmead Hospital, Sydney, November 2019. Topic: Cardiac Imaging in Heart Failure with Preserved Ejection Fraction
45. **Prasad SB.** World Congress of Ultrasound in Medicine, Melbourne Convention and Exhibition Centre, Melbourne, September 2019. Topic: Diastolic Stress Echocardiography: Practical Aspects
46. **Prasad SB.** Advanced Echo Symposium, Brisbane Convention and Exhibition Centre, Brisbane, May 2019. Topic: Diastolic Stress Test
47. **Prasad SB.** Advanced Echo Symposium, Brisbane Convention and Exhibition Centre, Brisbane, May 2019. Topic: Mixed Valvular Heart Disease
48. **Prasad SB.** Westmead Hospital Cardiology Grand Round, Westmead Hospital, Sydney, November 2019. Topic: New Diastology Guidelines
49. **Younger JF.** Imagine 2019: Innovation and Translation in Imaging Summit. Brisbane. September 2019. Topic: Accelerating Cardiac MRI In Australia
50. **Younger JF.** Essential Percutaneous Intervention Course. Sydney. 28<sup>th</sup> November 2019. Topic: Optimising Ct Image Acquisition For TAVI
51. **Younger JF.** Thrombo 360 Masterclass. Sydney. June 2019. Topic: Assessing Ischaemia in 2019 – MRI, CT and Nuclear.

## Abstracts (Orals/Posters)

1. Nestelberger T, Boeddinghaus J, **Greenslade J, Cullen L, Parsonage WA**, Troester V, Koechlin L, Rubini M, Badertscher P, Puelacher C, Twerenbold R, Mueller C, APACE and ADAPT investigators. Two-hour algorithm for early diagnosis of acute myocardial infarction using a novel high-sensitivity cardiac troponin I assay. *Eur Heart J* 2019;40(Suppl 1): ehz748.0489
2. **Jonathan R, McGaughran J, Atherton J.** 11 years of the Queensland cardiac genetics service. 52<sup>nd</sup> Conference of the European-Society-of-Human-Genetics (ESHG), Gothenburg Sweden, Jun 15-18, 2019. *Eur J Hum Genet* 2019; 27:1309-10
3. **Lo A, Guppy-Coles K, Ng A, Mew T, Dahiya A, Prasad S, Atherton J.** Exaggerated myocardial torsion may contribute to dynamic left ventricular outflow tract obstruction in patients with hypertrophic cardiomyopathy. *Heart Lung Circ* 2019;28: S170-S171
4. **Prasad S, Guppy-Coles K,** Stanton T, Krishnaswamy R, **Armstrong J,** Whalley G, **Atherton J,** Thomas L. Which is the best measure of left atrial size following myocardial infarction: minimal or maximal volume? Insights from prognostic and haemodynamic validation. *Heart Lung Circ* 2019;28: S278-S279
5. **Lancini D, Prasad S, Boots R, Guppy-Coles K, Atherton J, Martin P.** Echocardiographic findings in critically unwell patients with new onset atrial fibrillation. *Heart Lung Circ* 2019;28: S212
6. Johnson R, Peters S, Ingles J, Correnti G, Ingrey A, Mountain H, Zentner D, Thompson T, Oates E, Ronan A, Pachter N, Haan E, Van Spaendonck-Zwarts K, Semsarian C, **McGaughran J, Atherton J,** James P, Fatkin D. Penetrance of dilated cardiomyopathy in families with truncating TTN variants: a national perspective. *Heart Lung Circ* 2019;28: S140
7. **Lancini D, Prasad S, Boots R, Guppy-Coles K, Atherton J, Martin P.** New onset atrial fibrillation in the critically ill: burden and predictors. *Heart Lung Circ* 2019;28: S220
8. **Sowden N, Lancini D, Basso T, Guppy-Coles K, Hayman S, Malhotra G, Atherton J, Prasad S.** Clinical value of routine echocardiography prior to coronary angiography in patients in non-ST-elevation myocardial infarction. *Heart Lung Circ* 2019;28: S241
9. **Guppy-Coles K, Prasad S, Lo A, Smith K, Truloff T, Beard P, Armstrong J, Atherton J.** Feasibility and accuracy of assessing left ventricular systolic function by measuring mitral annular excursion using a hand-held echocardiography device with an automated atrioventricular-plane tracking algorithm. *Heart Lung Circ* 2019;28: S248.

## Other communications and outputs

1. **Atherton J.** Australian Diabetes Society live stream panel discussion: SGLT2 inhibitors in heart failure- an update from the World Congress of Cardiology and European Society of Cardiology Congress 2019, Paris, France
2. **Atherton J.** Cardiology Today: World Congress of Cardiology and European Society of Cardiology Congress 2019, Paris, France: Highlights from days 1-4 and panel discussion on day 4.



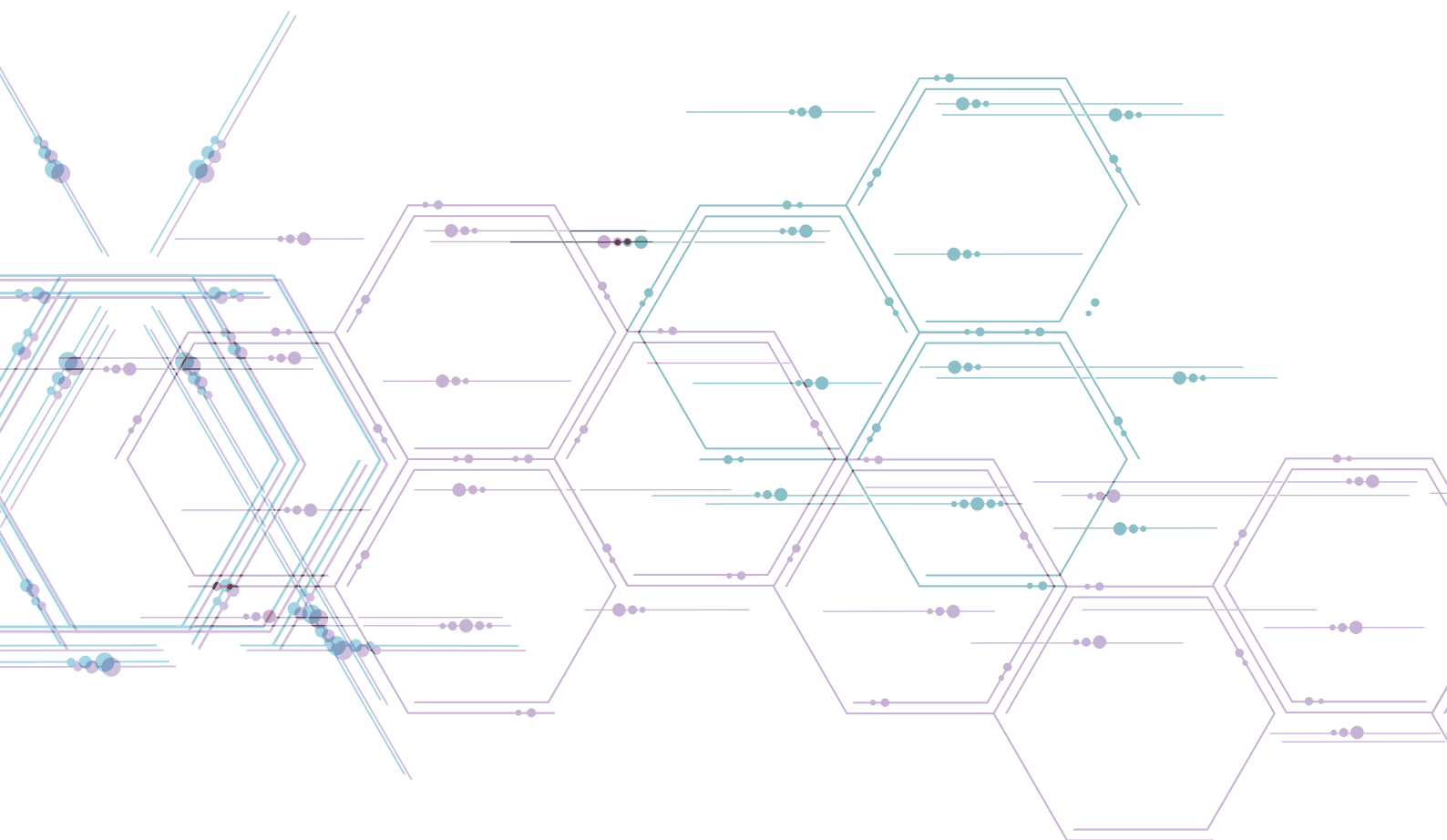


# DEPARTMENT OF CLINICAL IMMUNOLOGY & ALLERGY

Research project on patients with Idiopathic Anaphylaxis commenced by Drs Gardner, Prentice, Tan, Gillis and Scott.

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Dr Logan Gardner</b>	<b>Drs Roger Prentice, Zihao Tan, David Gillis, James Scott</b>	Determination of added benefit of a comprehensive assessment of alternative aetiology in patients classified as Idiopathic Anaphylaxis (IA) and assessment of the psychological impact of the condition



# DEPARTMENT OF CLINICAL PHARMACOLOGY

The Department of Clinical Pharmacology has a number of research focuses, across multiple professional disciplines, reflecting the multidisciplinary makeup of the department. Research staff work collaboratively with the Department of Pharmacy, in areas related to medication safety, the quality use of medicines.

Clinical Pharmacology continues to work collaboratively with other hospitals within Metro North Hospital and Health Service (*Prince Charles Hospital, Caboolture Hospital, Metro North IT*) and Brisbane (*Princess Alexandra Hospital*) and QIMR Berghofer. In addition, the department continues to focus on the role of individualised feedback, of both nursing and medical staff, related to the safety of prescribing and administration of medicines. Karen Davies, Clinical Nurse Consultant for Medication Safety continues to pursue this work and continues with her PhD studies. A particular focus of medication safety relates to inpatient anticoagulant use. A RBWH foundation grant was utilised to attempt to elucidate a therapeutic range for enoxaparin in renal impairment.

Further, we have started a large study, in collaboration, assessing the benefits of implementing an electronic prescribing system at RBWH and Caboolture Hospital. Research is also expanding into the safety and appropriate use of opioids not only within RBWH, but Metro North and Queensland. Collaborative research within the Emergency and Trauma Centre determining the prevalence and characteristics of medication-related presentations to the emergency department. Collaboration with Endocrinology validating a response to a therapy risk stratification system for Medullary Thyroid Cancer. A National collaboration with multiple universities (*University of Queensland, University of New South Wales, Murdoch Children's Research Institute and Curtin University of Technology*) investigating medication re-purposing to reduce risk of ovarian cancer and extend survival. Lastly, Dr Donovan, Director of Clinical Pharmacology, continues to expand his research interests in the cost-effectiveness of health care and continues to work collaboratively with researchers from within and external to RBWH, including a successful NHMRC project grant in collaboration with, amongst others, QIMR Berghofer.

## 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>
Karen Davies	PhD, UQ <i>(2016-2020)</i>	Medication administration evaluation and feedback tool	Karen Whitfield, <b>Ian Coombes</b> , Sam Keogh
Benita Suckling	M. Phil, USYD <i>(2019-2022)</i>	Impact of simple analgesia supply at hospital discharge on adherence and opioid consumption	Champika Pattullo; <b>Peter Donovan</b>

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Peter Donovan</b>	Michael Barras ( <i>Princess Alexandra Hospital</i> ), Ian Coombes, <b>Jason Roberts</b> , Ms Carla Scuderi ( <i>Pharmacy</i> ), Charles Denaro ( <i>Internal Medicine</i> ), John Atherton, Ms Bonnie Tai ( <i>Prince Charles Hospital</i> ), Ms Anita Pelecanos ( <i>QIMR Berghofer</i> )	Development of a therapeutic range for enoxaparin in patients with renal impairment



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

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Peter Donovan</b>	<b>Nicola Harper</b> , Dr Danielle Stowasser, Natasha Truloff ( <i>Metro North IT</i> ), Ian Coombes, ( <i>Pharmacy</i> ), <b>Charles Denaro</b> ( <i>Internal Medicine</i> ), Timothy Dunn ( <i>Caboolture Hospital Pharmacy</i> ), Anita Pelecanos ( <i>QIMR Berghofer</i> )	Evaluation of the Implementation of Electronic Prescribing using Interrupted Time-Series Analysis at Two Hospitals in Queensland
<b>Karen Davies</b>	<b>Karen Davies</b> , <b>Ian Coombes</b> , <b>Samantha Keogh</b> , Karen Hay, and <b>Karen Whitfield</b>	Medication Administration Evaluation and Feedback Tool Design and Validation
<b>Peter Donovan</b>	<b>Peter Donovan</b> , <b>Alison Mudge</b> , Jenny Martin ( <i>Uni Newcastle</i> ), Michael Barras ( <i>Princess Alexandra Hospital</i> ), <b>James Rowland</b>	Interventions to improve safety and quality in the management of anticoagulants for therapeutic indications in hospital inpatients: systematic review
<b>Peter Donovan</b>	<b>Tahlia Gentle</b> , <b>Donald McLeod</b> , Assoc. Prof Susan Jordan, ( <i>University of Queensland</i> ), <b>Champika Pattullo</b> , <b>Mark Daghish</b> , Assoc. Prof Anthony Bell, Wesley Hospital, Brisbane	Opioid Prescribing and Associated Harm in Queensland: A whole of population linkage study
<b>Benita Suckling</b>	<b>Champika Pattullo</b> , <b>Peter Donovan</b> , Shirley Hu ( <i>University of Queensland</i> ), Bill Loveday (Medications and Regulations, <i>Queensland Health</i> )	Rates of Opioid Dispensing and Opioid-related Harms 2010-2018 – The Queensland Experience
<b>Benita Suckling</b>	Jonathan Penm ( <i>University of Sydney</i> ), Asad Patanwala ( <i>University of Sydney</i> ), <b>Champika Pattullo</b> , <b>Peter Donovan</b>	Impact of simple analgesia supply at hospital discharge on adherence and opioid consumption
<b>Peter Donovan</b>	Alexis Dermegoglou ( <i>Cairns Hospital</i> ), Nicola Hinton ( <i>Cairns Hospital</i> ), Gaurav Puri ( <i>Cairns Hospital</i> ), Carolyn Allen ( <i>Sunshine Coast University Hospital</i> ), <b>Clare Cutmore</b> , <b>Heike Krause</b> , Hua Bing Yong ( <i>Princess Alexandra Hospital</i> ), Jacqueline Cotungo ( <i>Princess Alexandra Hospital</i> ), Jade Eccles-Smith, Jay Leckie ( <i>Clinical Excellence Queensland</i> ), Jennifer Abel ( <i>Logan Hospital</i> ), Kay Dean ( <i>West Morteon HHS</i> ), Kerry Porter ( <i>Princess Alexandra Hospital</i> ), Roisine Warwick ( <i>Redland Hospital</i> ), Lee Allam ( <i>Princess Alexandra Hospital</i> )	Queensland Inpatient Diabetes Survey 2019

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Dr Susan Jordan ( <i>University of Queensland</i> ), Prof Sallie-Anne Pearson ( <i>University of New South Wales</i> ), Dr Nirmala Pandeya ( <i>University of Queensland</i> ), Assoc Prof Michael Coory ( <i>Murdoch Children's Research Institute</i> ), Dr Katrina Spillsbury ( <i>Curtin University of Technology</i> )	<b>Peter Donovan</b>	IMPROVE – Investigating Medication Re-Purposing to Reduce risk of Ovarian cancer and Extend survival
<b>Louise Cullen</b> ( <i>Emergency and Trauma Centre</i> )	<b>Nathan Brown</b> , <b>Peter Donovan</b> , <b>Ian Coombes</b> , <b>Jaimi Greenslade</b> , <b>David Hughes</b> , <b>Elizabeth Doran</b>	Prevalence and characteristics of medication-related presentations to the emergency department. Emergency and Trauma Centre, Royal Brisbane and Women's Hospital
<b>Phillip Robinson</b> ( <i>Rheumatology</i> )	<b>Peter Donovan</b> , Nicola Dalbeth ( <i>University of Auckland, Auckland Hospital</i> )	A Health Economic Analysis Colchicine Therapy for Gout Prophylaxis
<b>Ian Coombes</b> ( <i>Pharmacy</i> )	<b>Peter Donovan</b> , Charles Mitchel ( <i>UQ</i> ) Brooke Myers, Christy Noble, ( <i>Gold Coast University Hospital, Griffith University</i> )	Improving Intern Medical Officer Prescribing through an Intervention of Self-Assessment and Feedback
<b>Don McLeod</b> ( <i>Endocrinology</i> )	<b>Peter Donovan</b> , <b>Roger Allison</b> ( <i>Cancer Care</i> ), <b>Susan Thomas</b> ( <i>Cancer Care</i> ), <b>Lee Tripcony</b> ( <i>Cancer Care</i> )	Validating a response to therapy risk stratification system for Medullary Thyroid Cancer
<b>Champika Pattullo</b> ( <i>Clinical Pharmacology</i> )	<b>Benita Suckling</b> , <b>Peter Donovan</b> , Lisa Hall ( <i>Queensland University of Technology</i> )	Development, implementation and outcomes of an adaptable OXYCODONE Quality Improvement STRATEGY: Steps towards opioid stewardship

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Karen Davies</b>	2019 Health Round Table Medication Safety Improvement Outstanding Innovation	2019 Health Round Table Medication Safety Improvement Group

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Dr Susan Jordan ( <i>Queensland Institute of Medical Research Berghofer</i> ), Prof Sallie-Anne Pearson ( <i>University of New South Wales</i> ), Dr Nirmala Pandeya ( <i>University of Queensland</i> ), Assoc Prof Michael Coory ( <i>Murdoch Children's Research Institute</i> ), Dr Katrina Spillsbury ( <i>Curtin University of Technology</i> ), <b>Dr Peter Donovan</b>	Clinical Pharmacology, Internal Medicine and Aged Care	IMPROVE – Investigating Medication Re-Purposing to Reduce risk of Ovarian cancer and Extend survival	National Health and Medical Research Council	\$438,313	\$95,104	2017-2021
<b>Karen Davies</b>	Clinical Pharmacology	Medication Administration Evaluation and Feedback Tool Design and Validation	RBWH Foundation	\$38,082.52	\$38,082.52	2019

## 2019 Research Publications

### Journal Articles

- Brooke Bullock, Ian Coombes**, Charles Mitchell, **Peter Donovan**, Jenny Whitty, A Systematic review of the costs and cost-effectiveness of clinical pharmacists on hospital ward rounds. *Expert Review of Pharmacoeconomics & Outcomes Research*, July 2019
- Madeline E Duke, Fiona L Britten**, Carel Pretorius, **Peter Donovan**. Maternal Metyrapone Use During Breastfeeding: Safe for the Breastfed Infant. *Journal of the Endocrine Society*, March 2019
- Brooke Bullock, Peter Donovan**, Charles Mitchell, Jenny Whitty, **Ian Coombes**. The impact of a pharmacist on post-take ward round prescribing and medication appropriateness. *International Journal of Clinical Pharmacy*, Jan 2019
- Peter Donovan**, David Arroyo, **Champika Pattullo**, Anthony J Bell. Trends in opioid prescribing in Australia: a systematic review. *Australian health review*. Epub ahead of print. DOI: 10.1071/AH18245
- Mudge A, McRae P, Donovan P, Reade M**. A multidisciplinary quality improvement program for older patients admitted to a vascular surgery ward. *Internal Medicine Journal* epub ahead of print 10 June 2019
- Davies, K.M., Coombes, I. D., Keogh, S.,** Hays K., & **Whitfield, K. M.** Medication administration evaluation tool design: An expert panel review. *Collegian*, 2019. 26(1): p. 118-124
- Davies, K.M., Coombes, I. D., Keogh, S.,** Hays K., Hurst, C. & **Whitfield, K. M.** Medication Administration Evaluation and Feedback Tool: Simulation Reliability Testing. *Clinical Simulation in Nursing*, 2019. 32: p. 1-7
- Donovan P**, Arroyo D, **Pattullo C**, et al. Trends in Opioid Prescribing in Australia: A Systematic Review. *Aust Health Rev* Published Online First: 12 November 2019. doi: 10.1071/AH18245.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

- Davies K. M.** Nursing Expert Panel member. Health Round Table Medication Safety Workshop. July 2019. Brisbane, Australia
- Madan A.** Therapeutic Drug Monitoring – Free Drug Measurements. Australian Association for Clinical Biochemistry Queensland Meeting. July 2019. Brisbane, Australia
- Suckling B. M.** Opioid Stewardship – Looking Locally. Medicines Management 2019, The 46<sup>th</sup> Society of Hospital Pharmacist (SHPA) National Conference; November 15-16; Gold Coast, Australia.



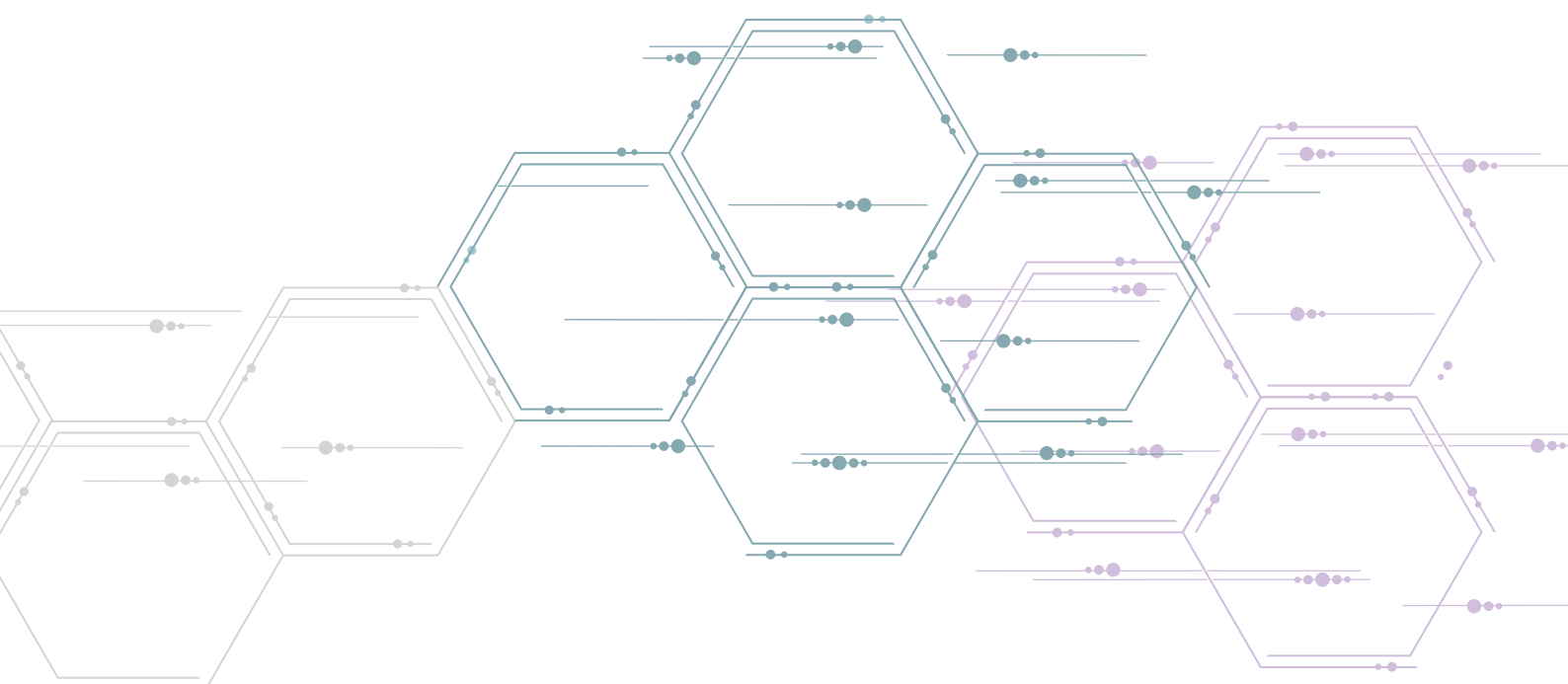


## Oral Presentations

1. **Davies K. M., Coombes, I. D., Keogh, S., Hay, K., & Whitfield, K. M.** Medication Administration Evaluation and Feedback Tool: Clinical Inter-rater Reliability. The National Nursing Forum. August 2019. Hobart, Australia
2. **Davies, K. M., Coombes, I. D., Keogh, S., Hay, K., & Whitfield, K. M.** (2019). Medication Administration Evaluation and Feedback Tool (MAEFT). Health Round Table 1908 Medication Safety Improvement Group; 2019 June 19-20; Brisbane, Australia
3. **Madan A, Donovan P & Lander C.** Monitoring for Valproate Toxicity in Patients with Hypoalbuminaemia. ASCEPT-PAGANZ 2019 Joint Scientific Meeting. November 2019. Queenstown, New Zealand
4. **Madan A, Risetto T, Trenerry H, & Donovan P.** The Perils of Antiepileptic Toxicity. ASCEPT Clinical Pharmacology Weekend. May 2019. Sydney, Australia
5. **Pattullo C., Thomson J., Suckling, B. M., Taylor S., Bell A.** Towards Statewide Opioid Stewardship: The adaptation and implementation of the RBWH Opioid Prescribing Toolkit in Emergency Departments. 28<sup>th</sup> Annual Royal Brisbane and Women's Hospital (RBWH) Healthcare Symposium 2019; September 9-12; Brisbane, Australia
6. **Pattullo C., Thomson J., Suckling, B. M., Taylor S., Bell A.** Towards Statewide Opioid Stewardship: The adaptation and implementation of the Opioid Prescribing Toolkit in Emergency Departments. Autumn Symposium 2019, Australasian College of Emergency Medicine; May 23-24; Brisbane, Australia
7. **Pattullo C., Thomson J., Suckling B. M., Taylor S., Donovan P., Bell A.** Towards Statewide Opioid Stewardship: The adaptation and implementation of the Opioid Prescribing Toolkit in Emergency Departments. Medicines Management 2019, The 46<sup>th</sup> Society of Hospital Pharmacist (SHPA) National Conference; November 15-16; Gold Coast, Australia
8. **Pattullo C., Thomson J., Suckling B. M., Taylor S., Donovan P., Bell A.** Towards Statewide Opioid Stewardship: The adaptation and implementation of the Opioid Prescribing Toolkit in Multiple Emergency Departments. 36<sup>th</sup> ACEM Annual Scientific Meeting 2019; Australasian College of Emergency Medicine; November 17-21; Hobart, Australia.

## Poster Presentations

1. **Davies, K. M., Coombes, I. D., Keogh, S., Hay, K., & Whitfield, K. M.** Medication Administration Evaluation and Feedback Tool: Design and Validation. Poster at: 28<sup>th</sup> Annual Royal Brisbane and Women's Hospital (RBWH) Healthcare Symposium 2019; September 9-12; Brisbane, Australia
2. **Davies, K. M., Coombes, I. D., Keogh, S., Hay, K., & Whitfield, K. M.** Medication Administration Evaluation and Feedback Tool: Design and Validation. Poster at: Medicines Management 2019, The 46<sup>th</sup> Society of Hospital Pharmacist (SHPA) National Conference; November 15-16; Gold Coast, Australia
3. **Madan A, Donovan P, & Lander C.** Monitoring for Phenytoin Toxicity in Patients with Hypoalbuminaemia. ASCEPT-PAGANZ 2019 Joint Scientific Meeting. November 2019. Queenstown, New Zealand
4. **Madan A, Suckling B, Pattullo C, & Donovan P.** Inpatient Use of Sustained Release Tapentadol – An Audit of Prescribing and Discharge Communication at a Tertiary Hospital. ASCEPT-PAGANZ 2019 Joint Scientific Meeting. November 2019. Queenstown, New Zealand
5. **Madan A, Risetto T, Trenerry H, & Donovan P.** Status Epilepticus and Encephalopathy or Valproate and Phenytoin Toxicity. TAPNA 2019 Scientific Meeting. May 2019. Gold Coast, Australia
6. **Robinson, P, Donovan, P.** Colchicine Prophylaxis of Gout Flares When Commencing Allopurinol Is Very Cost Effective: A Health Economic Analysis. ACR/ARP International Annual meeting. November 2019.





# DEPARTMENT OF ENDOCRINOLOGY & DIABETES

The Department of Endocrinology and Diabetes is staffed by 13 medical, two administrative, four allied health professionals, two research nurses, three diabetes nurse educators, one podiatrist, one dietitian and three scientists.

Clinical services provided include in-patient consultative services at RBWH and specialised out-patient clinics at RBWH and Bundaberg Hospital. The department contributes to the State-wide Thyroid Cancer Clinic held with members of Cancer Care Services. It also supports the Obstetric Endocrine Clinic service for Women's and Newborn Services. It provides outreach services to Bundaberg and telehealth services in maternity health, endocrinology and complex Type 2 Diabetes to regional hospitals in the Central zone.

Clinical research activities include an active clinical trials unit. Chronic disease funding is underwriting projects in management of Diabetes in Pregnancy and Type 2 Diabetes. The Conjoint Endocrine Laboratories, a joint venture of Internal Medicine Services and Pathology Queensland undertakes studies at a basic science level of placental iodide and thyroid hormone handling as well as assessing testosterone transport and action.

Professor Emma Duncan has a major role within the Department to promote and undertake research. There are now three doctoral students. The department has developed strong links with several research departments and has started major clinical studies in several areas including:

- HIV disease and bone
- Pheochromocytoma and bone disease
- Genetics of Pheochromocytoma
- Genetics of Thyroid Cancer
- Genetics of Skeletal Dysplasia
- Genetics of Osteogenesis imperfecta
- Genome wide association studies of osteoporosis.

Associate Professor Don McLeod leads the thyroid service and is pursuing research in aspects of the epidemiology of Thyroid Cancer and Graves' disease.

The department has developed the first gestational diabetes decision support tool for the management of diabetes. Data on all patients managed in the department is now captured at every clinic visit. This has led to the potential to do clinical trials and outcome audit of all patients with diabetes in pregnancy. This has led to collaboration with the Departments of Obstetric Medicine and Neonatology.

## ON-GOING RESEARCH PROJECTS:

### Basic Science

- Placental handling of thyroid hormone and iodine
- The role of HDL in thyroid hormone transport
- Testosterone transport and action in androgen-dependent tissues.

## CLINICAL TRIALS:

### 8 Studies

- Diabetes and cardiovascular disease
- GLP/GIP combination therapy
- Novel growth hormone antagonist therapies
- Thyroid cancer.



## 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>Dr Fiona Britten</b>	Masters 2014-current	Breastfeeding in mothers with type 2 diabetes mellitus	Prof. Emma Duncan <i>(secondary supervisor)</i>
<b>Dr Kelly Carruthers</b>	Masters 2016-2019	The Genetics of Familial Non-Medullary Thyroid Cancer	Prof. Emma Duncan <i>(first supervisor)</i>
<b>Dr Andrea Fernandes</b>	MPhil -current	The Endocrinology of Chronic Renal Disease	Prof. Emma Duncan <i>(first supervisor)</i>
Dr Sheila Cook	PhD -current	The effect of a low carbohydrate diet on clinical outcomes for patients with Type 1 Diabetes Mellitus	Prof. Emma Duncan <i>(first supervisor)</i>
Raied Alotaibi	MEpi 2019-completed	The relationship between naevi, melanoma and thyroid cancer in an Australian population-based study	Assoc. Prof. Don McLeod <i>(secondary supervisor)</i>
Sabbir Rahman	PhD 2017-current	Understanding the causes of rising incidence of thyroid cancer	Assoc. Prof. Don McLeod <i>(secondary supervisor)</i>

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Assoc. Prof. OMichael d'Emden</b>	Director Endocrinology clinical trials, chronic disease, thyroid hormone action, testosterone transport				
<b>Prof. Emma Duncan</b>	Senior Staff Specialist genetics of endocrinology, clinical bone disease				QUT
<b>Assoc. Prof. Don McLeod</b>	Senior Staff Specialist; thyroid disease	Research FTE 0.4	NHMRC, Metro North HHS, Queensland Government	Thyroid disease	QIMR Berghofer
<b>Dr Maree Mungomery</b>	Visiting Medical Officer chronic disease, diabetes telehealth project				
<b>Assoc. Prof. Kerry Richard</b>	Senior Scientist thyroid hormone, iodine and placenta				
<b>Dr Huika Li</b>	Testosterone transport				
<b>Helen Legg</b>	Clinical Research Coordinator		Dr d'Emden Research Fund	Clinical Trials	
<b>Liz Lahz</b>	Clinical Research Coordinator		Dr d'Emden Research Fund	Clinical Trials	

## Honorary Positions: e.g. Non-RBWH staff with research appointments at RBWH

Name	Position	Research Program	Affiliated University/ies
Melanie Young		Research Assistant thyroid hormone, iodine and placenta	
Assoc. Prof. Kerry Richard	Senior Scientist thyroid hormone, iodine and placenta, Dr Huika Li MB, testosterone transport		
Dr Huika Li	Testosterone transport		

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Assoc. Prof. Don McLeod</b>	Ladenson P, Cooper D, Caturegli P, Veitor N, Whiteman D, Jordan S	Does stress cause Graves' disease?
<b>Assoc. Prof. Don McLeod</b>	Ladenson P, Cooper D, Caturegli P, Bedno S, Whiteman D, Jordan S	The association between thyroid autoimmunity and future thyroid cancer

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Rachel Neale <i>(QIMR Berghofer)</i>	Waterhouse M, English DR, Armstrong BK, Baxter C, Duarte Romero B, Ebeling P, Hartel G, Kimlin MG, <b>McLeod DSA</b> , O'Connell RL, Van Der Pols JC, Venn AJ, Webb PM, Whiteman DC	The D-Health trial
Susan Jordan <i>(UQ)</i>	Rahman ST, <b>McLeod DSA</b> , Pandeya N, Neale RE, Bain CJ, Baade P, Youl PH, Jordan	The Queensland Thyroid Cancer Study

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Assoc. Prof. Don McLeod</b>	QIMR Berghofer, RBWH Endocrinology and Diabetes	Does stress cause Graves' disease?	NHMRC Project Grant	\$565,000		2017-2019
<b>Assoc. Prof. Don McLeod</b>	QIMR Berghofer RBWH Endocrinology and Diabetes	Queensland Advancing Clinical Research Fellowship. Optimising thyroid hormone treatment for Queenslanders	Queensland Government	\$300,000		November 2019-2022
<b>Assoc. Prof. Don McLeod</b>	QIMR Berghofer, RBWH Endocrinology and Diabetes	Metro North Clinician Research Fellowship. The causes, prognosis, and treatment of thyroid disease	Metro North HHS			2019-2022
<b>Assoc. Prof Kerry Richard</b>		The influence of maternal health and lifestyle on placental thyroid hormone transport and metabolism	Science and Education Research Committee. Kerry Richard and Kelly Landers	\$46 000	\$46,000	2019

## 2019 Research Publications

### Journal Articles

#### PRE PRINTS

1. **McLeod DSA**. Staging and prognosis of differentiated thyroid cancer. Chapter 54. In: Braverman LE, Cooper DS, Kopp P (eds). Werner and Ingbar's The Thyroid: A Fundamental and Clinical Text, 11<sup>th</sup> Edition. Wolters Kluwer, Philadelphia. In press.

#### ACCEPTED PAPERS

1. Landers K, **d'Emden MC** and Richard K (2019) Scavenger receptor class B member 1 independent uptake of transthyretin by cultured hepatocytes is regulated by high density lipoprotein. Journal of Lipids. Article ID 7317639. doi.org/10.1155/2019/7317639
2. Aideen M, McInerney-Leo, Jennifer West, Lawrie Wheeler, Paul J Leo, Kim M Summers, Lisa Anderson, Matthew A Brown, Malcolm West, **Emma L Duncan**. "Compound heterozygous mutations in FBN1 in a large family with Marfan syndrome". Accepted, Molecular Genetics and Genomic Medicine, December 2019
3. Gregson CL, Bergen D, Leo P, Sessions RB, Wheeler L, Hartley A, Youtlen S, Croucher PI, McInerney-Leo AM, Fraser W, Tang JCY, Anderson L, Marshall M, Sergot L, Paternoster L, Davey-Smith G, Brown MA, Hammond C, Kemp JP, Tobias JH and **Duncan EL** (2019) "A rare mutation in SMAD9 associated with high bone mass identifies the SMAD-dependent BMP signalling pathway as a potential anabolic target for osteoporosis." J Bone Miner Res. ePub 16 Sept 2019
4. Cronin O, Forsyth L, Goodman K, Lewis SC, Keerie C, Walker A, Porteous M, Cetnarskyj R, Ranganath LR, Selby PL, Hampson G, Chandra R, Ho S, Tobias JH, Young-Min S, McKenna MJ, Crowley RK, Fraser WD, Gennari L, Nuti R, Brandi ML, Del Pino-Montes J, Devogelaer JP, Durmez A, Isaia G, Di Stefano M, Guanabens N, Blanch J, Seibel MJ, Walsh JP, Kotowicz MA, Nicholson GC, **Duncan EL**, Major G, Horne A, Gilchrist NL, Boers M, Murray GD, Charnock K, Wilkinson D, Russell RGG and Ralston SH (2019) "Zoledronate in the prevention of Paget's (ZiPP): protocol for a randomised trial of genetic testing and targeted zoledronic acid therapy to prevent SQSTM1-mediated Paget's disease of bone." BMJ Open 9(9): e030689
5. Johnson SR, Carter HE, Leo P, Hollingworth SA, Davis EA, Jones TW, Conwell LS, Harris M, Brown MA, Graves N and **Duncan EL** (2019) "Cost-effectiveness Analysis of Routine Screening Using Massively Parallel Sequencing for Maturity-Onset Diabetes of the Young in a Pediatric Diabetes Cohort: Reduced Health System Costs and Improved Patient Quality of Life." Diabetes Care 42(1): 69-76. – Awarded 2019 Overall Publication of the Year and the Carla Patterson award for Best Research by an Early Career Investigator, Institute of Health and Biomedical Sciences, Queensland University of Technology



## Journal Articles

### ACCEPTED PAPERS (CONT):

6. Johnson SR, Ellis JJ, Leo P, Anderson LK, Ganti U, Harris JE, Curran JA, McInerney-Leo A, Paramalingam N, Song X, Conwell LS, Harris M, Jones TW, Brown MA, Davis EA, **Duncan EL** (2019) “Comprehensive genetic screening: The prevalence of maturity-onset diabetes of the young gene variants in a population-based childhood diabetes cohort”. *Pediatr Diabetes* 20(1):57-64
7. Wisniowski B, **McLeod DSA**, Harvey Y, Papadimos D, Adams R, Brown I, McGuire L, Armes J, Mollee P. The epidemiology of amyloidosis in Queensland, Australia. *The British Journal of Haematology*. 2019;186: 829-36 (PMID 31148162)
8. Nickel B, Tan T, Cvejic E, Baade P, **McLeod DSA**, Pandeya N, Youl P, McCaffery K, Jordan S. Health-related quality of life after diagnosis and treatment of differentiated thyroid cancer and association with type of surgical treatment. *JAMA Otolaryngology Head & Neck Surgery*. 2019; 145: 231–38 (PMID 30653212)
9. Waterhouse M, English DR, Armstrong BK, Baxter C, Duarte Romero B, Ebeling P, Hartel G, Kimlin MG, **McLeod DSA**, O’Connell RL, Van Der Pols JC, Venn AJ, Webb PM, Whiteman DC, Neale RE. A randomized placebo-controlled trial of vitamin D supplementation for reduction of mortality and cancer: statistical analysis plan for the D-Health Trial. *Contemporary Clinical Trials Communications*. 2019; 14: 100333 (PMID 30886934)
10. Rahman ST, **McLeod DSA**, Pandeya N, Neale RE, Bain CJ, Baade P, Youl PH, Jordan SJ. Understanding pathways to the diagnosis of thyroid cancer – are there ways we can reduce over-diagnosis? *Thyroid*. 2019; 29: 341-48 (PMID 30700206)
11. Nickel B, Semsarian C, Moynihan R, Barratt A, Jordan S, **McLeod D**, Brito JP, McCaffery K. Public perceptions of changing the terminology for low risk thyroid cancer: a qualitative focus group study. *BMJ Open*. 2019; 9: e025820 (PMID 30813118)
12. Bone and Metabolism v6. Therapeutic Guidelines. 2019. Therapeutic Guidelines Ltd. West Melbourne. Available online at: [tg.org.au](http://tg.org.au). **McLeod DSA** Expert group member
13. **McLeod DSA**, Zhang L, Durante C, Cooper DS. Contemporary debates in adult papillary thyroid cancer management. *Endocrine Reviews*. 2019; 40: 1481–99 (PMID 31322698)
14. Managing Cardiovascular Risk in Type 2 Diabetes: What Do the Cardiovascular Outcome Trials Mean for Australian Practice? Deed G, Atherton JJ, **d’Emden M**, Rasalam R, Sharma A, Sindone A. *Diabetes Ther*. 2019 Oct;10(5):1625-1643. doi: 10.1007/s13300-019-0663-x. Epub 2019 Jul 10. Review. PMID: 31292928
15. Hyponatremia in Heart Failure. Tee SL, Sindone A, Roger S, Atherton J, Amerena J, **D’Emden M**, Erlich J, De Pasquale C. *Intern Med J*. 2019 Aug 26. doi: 10.1111/imj.14624. [Epub ahead of print] Review. PMID: 31449715
16. Fernandes A, Jang C, **Duncan EL** (2019) “Is there a role for menopausal hormone therapy in the management of osteoporosis?” *Endocrinology Today* 8(3): 12-20
17. **Duncan EL** (2019) “Atypical femoral fracture: a fascinating story in evolution”. *J Bone Miner Res* 33(12):2089-2090
18. Brown MA, **Duncan EL**, Evans DM (2019) Comment on “Vitamin D-Binding Protein Deficiency and Homozygous Deletion of the GC Gene”, *New Engl J Med*, 380(26) 2583
19. Johnson SR and **Duncan EL** (2019) – Response to comment on Johnson et al. Cost-Effectiveness Analysis of Routine Screening Using Massively Parallel Sequencing for Maturity-Onset Diabetes of the Young in a Pediatric Diabetes Cohort: Reduced Health System Costs and Improved Patient Quality of Life”; *Diabetes Care* 42(5): e79-e80.

## Book Chapters / Letters

1. Douglas Kiel, **Emma L Duncan**, Fernando Rivedeneira. “Human Genome-Wide Association Studies” Primer for the American Society for Bone and Mineral Research (ed. C. Rosen). In press.

### CURRENTLY SUBMITTED

1. Ella M. M. A. Martin, Annabelle Enriquez, Duncan B. Sparrow, David Humphreys, Paul J. Leo, **Emma L. Duncan**, Kavitha R. Iyer, Joeline A. Greasby, Clémantine Dimartino, Jeanne Amiel, Yline Capri, Daphné Lehalle, Ali G. Gharavi, Grażyna G. Krzemień, Monika Miklaszewska, Robert D. Steiner, Cathy Raggio, Robert Blank, Hila M. Rasouly, Nara L. M. Sobreira, Rebekah Jobling, Christopher T. Gordon, Philip Giampietro, Sally L. Dunwoodie and Gavin Chapman. “Heterozygous loss of WBP11 function causes multiple congenital defects in humans and mice.” Submitted, *Am J Hum Genet*, November 2019
2. Aideen McInerney-Leo, Jennifer West, Bettina Meiser, Malcolm West, Matthew A Brown, **Emma L Duncan** “Causal attributions in an Australian Aboriginal family with Marfan syndrome: A qualitative study.” Submitted, *Social Science and Medicine*, October 2019
3. Owen Cronin, Deepak Subedi, Laura Forsyth, Kirsteen Goodman § Steff Lewis, Catriona Keerie, Allan Walker, Mary Porteous, Roseanne Cetnarskyj, Ranganath Lakshminarayan, Peter Selby, Geeta Hampson, Rama Chandra, Shu Ho, Jon Tobias, Steven Young Min, Malachi McKenna, Rachel Crowley, William D. Fraser, Jonathan Tang, Luigi Gennari, Rannuccio Nuti, Maria-Luisa Brandi, Javier del Pino-Montes, Jean-Pierre Devogelaer Anne Durnez, Giancarlo Isaia, Marco Di Stefano, Josep Blanch, Nuria Guanabens, Markus Seibel, John P Walsh, Mark Kotowicz, Geoffrey Charles Nicholson, **Emma L Duncan**, Gabor Major, Ann Horne, Nigel Gilchrist, Stuart H. Ralston “Evolution of early Paget’s disease in SQSTM1 mutation carriers.” Submitted, *BMJ Open*, minor revisions requested, resubmitted July 2019.

## PRINCIPLE INVESTIGATOR IN PUBLISHED CLINICAL TRIALS

1. Dapagliflozin and Cardiovascular Outcomes in Type 2 Diabetes. Wiviott SD, Raz I, Bonaca MP, Mosenzon O, Kato ET, Cahn A, Silverman MG, Zelniker TA, Kuder JF, Murphy SA, Bhatt DL, Leiter LA, McGuire DK, Wilding JPH, Ruff CT, Gause-Nilsson IAM, Fredriksson M, Johansson PA, Langkilde AM, Sabatine MS; DECLARE-TIMI 58 Investigators. *N Engl J Med*. 2019 Jan 24;380(4):347-357. doi: 10.1056/NEJMoa1812389. Epub 2018 Nov 10. PMID: 30415602
2. Effect of lorcaserin on prevention and remission of type 2 diabetes in overweight and obese patients (CAMELLIA-TIMI 61): a randomised, placebo-controlled trial. Bohula EA, Scirica BM, Inzucchi SE, McGuire DK, Keech AC, Smith SR, Kanevsky E, Murphy SA, Leiter LA, Dwyer JP, Corbalan R, Hamm C, Kaplan L, Nicolau JC, Ophuis TO, Ray KK, Ruda M, Spinar J, Patel T, Miao W, Perdomo C, Francis B, Dhadda S, Bonaca MP, Ruff CT, Sabatine MS, Wiviott SD; CAMELLIA-TIMI 61 Steering Committee Investigators. *Lancet*. 2018 Nov 24;392(10161):2269-2279. doi: 10.1016/S0140-6736(18)32328-6. Epub 2018 Oct 4. PMID: 30293771
3. Cardiovascular Safety of Lorcaserin in Overweight or Obese Patients. Bohula EA, Wiviott SD, McGuire DK, Inzucchi SE, Kuder J, Im K, Fanola CL, Qamar A, Brown C, Budaj A, Garcia-Castillo A, Gupta M, Leiter LA, Weissman NJ, White HD, Patel T, Francis B, Miao W, Perdomo C, Dhadda S, Bonaca MP, Ruff CT, Keech AC, Smith SR, Sabatine MS, Scirica BM; CAMELLIA-TIMI 61 Steering Committee and Investigators. *N Engl J Med*. 2018 Sep 20;379(12):1107-1117. doi: 10.1056/NEJMoa1808721. Epub 2018 Aug 26. PMID: 30145941.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **McLeod DSA**. Endocrinology workshop: A morning with Mike Tuttle. 8<sup>th</sup> Multidisciplinary Update on Thyroid & Parathyroid Surgery. Nov 16, 2019, Noosa
2. **McLeod DSA**. Thyroid nodules everywhere: A clinical decision-making guide. Australian Sonographers Association National Conference. June 23, 2019, Brisbane
3. **McLeod DSA**. Thyroid cancer case presentation. Queensland thyroid cancer special interest group. June 19, 2019, Brisbane.

### Poster Presentations

1. Richard K, Landers KA and **d'Emden MC** (2019) Hepatocyte uptake of transthyretin is regulated by high density lipoprotein and is independent of scavenger receptor class B member 1. The Annual Scientific Meetings of the Endocrine Society of Australia, the Society for Reproductive Biology and the Asia Oceania Thyroid Association, Sydney, Australia
2. Richard K, Landers KA and **d'Emden MC** (2019) Transthyretin uptake by hepatocytes is regulated by high density lipoprotein and is independent of scavenger receptor class B member 1. RBWH Healthcare Symposium, Herston, Qld, Australia
3. Li H, **d'Emden MC** and Richard K (2019) Placental tissue for use in research. RBWH Healthcare Symposium, Herston, Qld, Australia
4. **Li H**, d'Emden MC and Richard K (2019) Placental tissue for use in research. Annual Queensland Perinatal Consortium (QPACT) Meeting, Griffith University, Gold Coast, Australia.

## Other communications and outputs:

1. McLeod DSA. Editorial Board. *Thyroid* (commenced 2016, ongoing)
2. McLeod DSA. Member, American Thyroid Association Public Health Committee (commenced 2018, ongoing)
3. McLeod DSA. Member, American Thyroid Association Survey Evaluation Task Force (commenced 2019, ongoing)
4. McLeod DSA. Member, Organizing Committee. Endocrine Society of Australia Annual Scientific Meeting 2019-2021
5. McLeod DSA. Member, Expert Group. Bone & Metabolism v6. Therapeutic Guidelines (commenced 2018, completed 2019)
6. Member, Local Organising Committee. Asia & Oceania Thyroid Association Conference 2019 (Sydney, Australia) – completed1. McLeod DSA. Editorial Board. *Thyroid* (commenced 2016, ongoing).



# DEPARTMENT OF GASTROENTEROLOGY & HEPATOLOGY

The Endoscopy Research Group is currently running number of clinical projects involving capsule endoscopy, colonoscopy (safety, quality and polypectomy), bariatric endoscopy, EUS, dysplastic Barrett's oesophagus and eosinophilic oesophagitis. This group runs and participates in several national, multicentre studies. The group has a large group of interventional endoscopists, many with national and international reputations. The focus last year was increasing the clinical research support, starting several trials and setting up clinical databases in preparation for the expanded diagnostic and therapeutic endoscopy coming with the opening of STARS.

The Gut Health Research group (QIMR Berghofer MRI) is an independently funded team of clinicians, scientists, and students working in close collaboration with the Department of Gastroenterology at RBWH, and with local (QIMR Berghofer, Mater Adult Hospital), national (the member units of the ANZ IBD consortium) and international (International IBD Genetics Consortium) colleagues. The group has focussed on developing and establishing novel diagnostic and management tools over the past 12 months. This includes our risk prediction tool for high-risk small bowel Crohn's disease, now published, and an assay for detecting key mutations in the gene NUDT15 which are associated with thiopurine-induced myelosuppression.

Barbara Leggett continues to collaborate with a basic scientist Vicki Whitehall from Pathology Queensland and the histopathologists Mark Bettington, Christophe Rosty and Cheng Liu from Envoi Specialist Pathologists. This longstanding and productive collaboration investigating colorectal tumourigenesis is centred at laboratory space in QIMR Berghofer. In 2019 the highlight has been understanding that sessile serrated lesions have much higher malignant potential when they occur in elderly subjects because the age of the host markedly influences the rate at which DNA methylation occurs. This year also marked a major milestone in translation of our work on serrated neoplasia into clinical practice with Barbara Leggett being the author of the first national guidelines on colonoscopic management of serrated polyps.

Richard Skoien has continued his translational work in miRNAs as potential biomarkers in HCC and cirrhosis and is now exploring candidates via collaborations with hepatologists in other Liver Centres interstate. Ms Anna Weis was awarded her PhD this year for her thesis on the role of miRNAs in liver disease under the supervision of Dr Skoien and Prof Grant Ramm (QIMR-Berghofer). The hepatology medical and nursing staff are active in clinical research with the HACC-FOL initiative (streamlined model of nurse-led HCC surveillance) and the HepatoCare clinic (a novel model of dedicated supportive and palliative care in advanced cirrhosis) as well as a number of clinical audits of the management of variceal bleeding, HCC and SBP are also being undertaken.



## 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>
Jennifer Borowsky	PhD, UQ <i>(2017-2021)</i>	Multiplexed Immuno-profiling of the colorectal carcinoma microenvironment	Vicki Whitehall, <b>Barbara Leggett</b>
<b>Lauren White</b>	MPhil UQ/QIMRB <i>(2018-2020)</i>	Introduction of Intestinal Ultrasound to a tertiary Gastrointestinal department.	<b>Graham Radford-Smith, Andrew Lee</b>
<b>Abigail Marsh</b>	PhD UQ	The effects of an anti-inflammatory diet on disease activity, symptom severity and microbiota profile in patients with inflammatory bowel disease.	<b>Graham Radford-Smith, Veronique Chachay, Merrilyn Banks</b>
Caitlin Hall	PhD UQ/QIMRB	Understanding the relationship between the gut microbiome and the brain.	Lucca Cochi, <b>Graham Radford-Smith</b> , Anton Lord
<b>Anthony Croft</b>	MPhil UQ/QIMRB <i>(2017-2019, awarded)</i>	Risk assessment in acute ulcerative colitis	<b>Graham Radford-Smith</b> , Anton Lord
Yoon-Kyo An	MPhil UQ/TRI/QIMRB	AURORA (Australian Ustekinumab Real-World Observational Research)	Jake Begun, <b>Graham Radford-Smith</b>
Rina Kumar	PhD UQ/QIMRB	Analysis of the mucosa-associated gut microbiome in health and disease	<b>Graham Radford-Smith</b> , Lisa Simms, Anton Lord, Martha Zakrzewski

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Barbara Leggett</b>	Professor	1.0	Academic title holder	School of Medicine	University of Queensland
<b>Ben Devereaux</b>	Professor	0.2	Academic title holder	School of Medicine	University of Queensland
<b>Graham Radford-Smith</b>	Associate Professor	0.7	Academic title holder	School of Medicine	University of Queensland
<b>Richard Skoien</b>	Senior lecturer	1.0	Academic title holder	School of Medicine	University of Queensland
<b>Kimberley Ryan</b>	Endoscopic Research Coordinator	0.8	Operational / MN Research Coordinator grant funded	Interventional Gastroenterology Research	Queensland Health
<b>Christopher (Yin Hiew) Kia</b>	Endoscopy <i>(Hepatobiliary Fellow)</i>	1.0	Operational	Gastrointestinal – Interventional	Queensland Health
<b>Abdulnasser Lafta</b>	Endoscopy <i>(Luminal Fellow)</i>	1.0	Operational	Gastrointestinal – Interventional	Queensland Health
<b>Melita Andelovic</b>	Hepatology – Fellow	1.0	Operational	Gastrointestinal – Hepatology	Queensland Health
<b>Lauren White</b>	Inflammatory Bowel Disease – Research Fellow	0.8	IBD Telehealth, RBWH Scholarship, MNHHS Future Fund	Gut Health	University of Queensland
<b>Allison Brown</b>	Clinical Research Nurse	1.0	Clinical trials, MRFF award	Gut Health	Queensland Health
<b>Abigail Marsh</b>	Dietician	0.6	Operational, Future Fund, RBWH Scholarship	Gut Health	University of Queensland

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Barbara Leggett</b>	Vicki Whitehall ( <i>Pathology Queensland and QIMR Berghofer</i> ), Mark Bettington ( <i>Envoi Specialist Pathologists</i> ), Christopher Rosty ( <i>Envoi Specialist Pathologists</i> ), Cheng Liu ( <i>Envoi Specialist Pathologists</i> )	Serrated pathway of colorectal tumourigenesis
<b>Mark Appleyard, Florian Grimpen</b>	Nam Q Nguyen ( <i>Royal Adelaide Hospital</i> ), Gregor Brown ( <i>Alfred Health</i> ), Alan Moss ( <i>Western Health</i> ), Gary Lim ( <i>Christchurch Hospital</i> )	Does bowel preparation alter diagnostic yield in capsule endoscopy?
<b>Florian Grimpen, Joshua Satchwell, Mark Appleyard, Kimberley Ryan, Matthew Remedios</b>		Barrett's Oesophagus and its progression to oesophageal adenocarcinoma – Impact of enhanced imaging techniques and endoscopic therapies on outcomes
<b>Abdulnasser Lafta, Florian Grimpen, Matthew Remedios, Kimberley Ryan, Mark Appleyard</b>	<b>Jessica Kinneally</b> ( <i>Nutrition and Dietetics</i> )	Two food group elimination diet versus swallowed fluticasone for the management of adult eosinophilic esophagitis, a single-centred randomised prospective study
<b>Kimberley Ryan, Florian Grimpen, Mark Appleyard</b>	<b>Anthony FT Brown</b> ( <i>Emergency and Trauma Centre</i> ), Eva Malacova ( <i>QIMR Berghofer</i> )	Examining time to endoscopic intervention in patients admitted to hospital with upper gastrointestinal bleeding
<b>Patrick Walsh</b>	<b>Chun How Gan, Mark Appleyard, Jason Huang, George Hopkins</b>	Argon Plasma Coagulation and endoscopic suturing in the management of weight regain after gastric bypass surgery
<b>Anthony Croft, Tianghong Wu, Graham Radford-Smith</b>	<b>Jacob Lim</b>	Endoscopic balloon dilatation in structuring Crohn's disease
<b>Graham Radford-Smith</b>	<b>Mark Appleyard</b> ( <i>Dept of Gastroenterology, RBWH</i> ), Lisa Simms and Anton Lord ( <i>Gut Health, QIMRB</i> ), Louisa Gordon and Patricia Valery ( <i>Population Health, QIMRB</i> ), Tony Rahman ( <i>Dept of Gastroenterology, TPCH</i> ), Nick Tutticci, ( <i>Dept of Gastroenterology, QEII</i> )	Development of a risk assessment tool to improve clinical triage accuracy for colonoscopic investigations for earlier detection of colorectal cancer and precancerous lesions
<b>Lauren White</b>	<b>Graham Radford-Smith; Andrew Lee;</b> Anton Lord ( <i>QIMRB</i> )	Introduction of Intestinal Ultrasound to a tertiary Gastrointestinal department
<b>Abigail Marsh</b>	<b>Graham Radford-Smith; Merrilyn Banks;</b> Veronique Chachay ( <i>UQ</i> ); Anton Lord ( <i>QIMRB</i> )	The effects of an anti-inflammatory diet on disease activity, symptom severity and microbiota profile in patients with inflammatory bowel disease
<b>Richard Skoien</b>	Grant Ramm and Anna Weis ( <i>Hepatic Fibrosis Laboratory, QIMR-B</i> )	Investigating the potential of circulating microRNAs as non-invasive biomarkers in cirrhosis and hepatocellular carcinoma
<b>Richard Skoien</b>	<b>Alison Kearney</b> ( <i>Dept of Supportive and Palliative Care</i> ), <b>Olivia Cullen and Joanne Mina</b> ( <i>Dept of Gastroenterology and Hepatology</i> ); <b>Amy Legg</b> ( <i>Dept of Pharmacy</i> )	The <i>HepatoCare</i> project: A novel, multi-disciplinary model of palliative and supportive care in advanced cirrhosis
<b>Richard Skoien</b>	<b>Victoria Grey, Lorne Dunlop</b> ( <i>IMS</i> ); <b>Kimberley Ryan, Mark Appleyard</b> ( <i>Dept of Gastroenterology</i> ); <b>Anthony Brown</b> ( <i>Emergency and Trauma Centre</i> )	A study of the management of decompensated cirrhotic patients at risk of spontaneous bacterial peritonitis admitted through the RBWH Emergency Department

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Vicki Whitehall <i>(Pathology Queensland and QIMR Berghofer)</i>	<b>Barbara Leggett</b> <i>(Gastroenterology and Hepatology)</i> ; <b>Matthew Burge</b> <i>(Medical Oncology)</i> ; <b>Melissa Eastgate</b> <i>(Medical Oncology)</i>	BRAF mutant colorectal cancer
Jan Tack <i>(University Hospital Gasthuisberg, Belgium)</i>	<b>Vishal Kaushik</b> <i>(Gastroenterology and Hepatology)</i>	IBIS-C Study group. Economic burden of moderate to severe irritable bowel syndrome with constipation in six European countries
Nicholas A Kennedy <i>(Royal Devon and Exeter Hospital National Health Service (NHS), UK)</i>	<b>Vishal Kaushik</b> <i>(Gastroenterology and Hepatology)</i>	Predictors of anti-TNF treatment failure in anti-TNF-naive patients with active luminal Crohn's disease: a prospective, multicentre, cohort study
Marie Ooi, Nam Q Nguyen <i>(Royal Adelaide Hospital)</i>	<b>Mark Appleyard, Florian Grimpén, Abdunnasser Lafta</b>	A randomised controlled study on the effectiveness of a transparent cap-assisted device in the endoscopic management of high-grade food bolus obstruction in the oesophagus
Mangira, D., Moss, A., Nalankilli, K & Cao, J. <i>(Western Hospital, Footscray)</i>	<b>Florian Grimpén, Mark Appleyard, Matthew Remedios</b>	Cold snare Polypectomy for non-pedunculated colonic polyps sized 10-19mm: A prospective observational study (CSP study)
Nguyen, N., Phan, A., Schoeman, M. <i>(Royal Adelaide Hospital)</i>	<b>Mark Appleyard, Florian Grimpén, Kimberley Ryan, Anthony FT Brown Carly Silvester, Arrchanah Balanchandran</b>	The utility of the Glasgow-Blatchford score in predicting clinical outcome and stratifying the needs for therapeutic intervention in hospitalised patients with Upper Gastrointestinal Bleeding
Yoon-Kyo An <i>(Mater/UQ)</i> , Jake Begun <i>(Mater/UQ/TRI)</i>	<b>Graham Radford-Smith</b>	AURORA (Australian Ustekinumab Real-World Observational Research) in Crohn's Disease
Nik Ding <i>(St Vincent's, Melbourne)</i> , Edouard Louis <i>(Hopital St Antoine, Liege, Belgium)</i> , GETAID IBD Group <i>(Europe)</i>	<b>Graham Radford-Smith, Allison Brown</b>	A prospective randomized controlled trial comparing infliximab-antimetabolites combination therapy to anti-metabolites monotherapy and infliximab monotherapy in Crohn's disease patients in sustained steroid-free remission on combination therapy
Peter De Cruz <i>(Austin Hospital, Melbourne)</i> , Ronan Burder <i>(Austin Hospital, Melbourne)</i>	<b>Graham Radford-Smith, Allison Brown</b>	PREDICT UC: Optimizing Infliximab Induction Therapy for Acute Severe Ulcerative Colitis
Ken Croitura, Mount Sinai Hospital, Toronto, Canada	<b>Graham Radford-Smith, Katherine Hanigan (QIMRB); Lisa Simms (QIMRB)</b>	GEMS (Genes, Environment, Microbiome)
Will Kemp <i>(The Alfred, Melbourne) on behalf of the ALA-CRN)</i>	<b>Richard Skoien</b>	Management, Outcomes and Survival of an Australian IgG4-sclerosing cholangitis Cohort: The MOSAIC study
Patricia Valery <i>(QIMR-B)</i> and Elizabeth Powell <i>(PAH)</i>	<b>Richard Skoien</b>	Cirrhosis Care (CirCare): Understanding patient and health system factors that impact on health outcomes for patients with cirrhosis

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Vicki Whitehall, <b>Barbara Leggett</b> , Mark Bettington	Gastroenterology and Hepatology	High risk sessile serrated adenomas of the colorectum	Cancer Council Queensland	\$200,000	\$100,000	2019-2020
<b>Graham Radford-Smith</b> , Lisa Simms, Anton Lord, <b>Allison Brown</b> , Tony Rahman, Patricia Valery, Nick Tutticci, Louisa Gordon, Mark Appleyard	Gut Health Research Group <i>(QIMRB)</i> , <b>Gastroenterology Departments</b> <i>(RBWH, TPCH, QEII)</i> , Population Health <i>(QIMRB)</i>	Development of a risk assessment tool to improve clinical triage accuracy for colonoscopic investigations for earlier detection of colorectal cancer and precancerous lesions	MRFF	\$242,500	Nil	2019-2020



## 2019 Research Publications

### Journal Articles

1. Bettington M, Brown I, Rosty C, Walker N, Croese J, Rahman T, Pearson S-A, McKeone D, **Leggett B**, Whitehall V. Sessile serrated adenomas in young patients may have limited risk of malignant progression. *J Clin Gastroenterol* 2019; 53: e113-e116
2. Lannagan TRM, Lee YK, Wang T, Roper J, Bettington ML, Fennell L, Vrbancic L, Jonavicius L, Somashekar R, Gieniec K, Yang M, Ng JQ, Suzuki N, Ichinose M, Wright JA, Kobayashi H, Putoczki TL, Hayakawa Y, Leedham S, Abud HE, Yilmaz OH, Marker J, Klebe S, Wirapati P, Tejpar S, **Leggett B**, Whitehall VLJ, Worthley DL, Woods SL. Genetic editing of colonic organoids provides a molecularly distinct and orthotopic preclinical model of serrated carcinogenesis. *Gut*; 2019; 68:684-692
3. Valery PC, Baade PA, Stuart KA, **Leggett B**, Macdonald GA, Whiteman D, Crawford DH, Clark PJ. Five-year conditional survival for patients with hepatocellular carcinoma in Queensland, Australia. *GastroHep* 2019; 1:61-69
4. Bettington ML, Liu C, Gill A, Walker NI, **Leggett B**, Whitehall VLJ, Rosty C. BRAF V600E immunohistochemistry demonstrates that some sessile serrated lesions with adenomatous dysplasia may represent collision lesions. *Histopathology* 2019; 75:81-87
5. Fennell L, Dumenil T, Hartel G, Nones K, Bond C, McKeone D, Bowdler L, Montgomery G, Wockner L, Klein K, Hoffmann I, Patch A-M, Kazakoff S, Pearson J, Waddell N, Wirapati P, Lochhead P, Imamura Y, Ogino S, Shao R, Tejpar S, **Leggett B**, Whitehall V. Integrative genome-scale DNA methylation analysis of a large and unselected cohort reveals five distinct subtypes of colorectal adenocarcinomas. *Cellular and Molecular Gastroenterology and Hepatology* 2019; 8:269-290
6. Liu C, Fennell LJ, Bettington ML, Walker NI, Dwine J, **Leggett B**, Whitehall VLJ. DNA methylation changes that precede onset of dysplasia in advanced sessile serrated adenomas. *Clinical Epigenetics* 2019; 11:90 doi.org/10.1186/s13148-019-0691-4
7. **Gonsalkorala ES**, Cannon MD, Lim TY, Penna L, Williamson C, Heneghan MA. Non-invasive markers (ALBI and APRI) Predict pregnancy outcomes in women with chronic liver disease. *Am. J. Gastroenterology* 2019 Feb;114(2):267-275.
8. Carter H, Knowles D, Moroney T, Holtmann G, Rahman T, **Appleyard M**, Steele N, Zanco M, Graves N. The use of modelling studies to inform planning of health services: case study of rapidly increasing endoscopy services in Australia. *BMC Health Services Research* 2019, 19:608, doi:10.1186/s12913-019-4438-x
9. Cherian P, Blake C, **Appleyard M**, Clouston J, & Mott N. Outcomes of radiologically inserted gastrostomy versus percutaneous endoscopic gastrostomy. *Journal of Medical Imaging and Radiation Oncology* 2019, 63:610-616
10. Powell EE, **Skoien R**, Rahman T, Clark PJ, O'Beirne J, Hartel G, Stuart KA, McPhail SM, Gupta R, Boyd P, Valery PC. Increasing Hospitalization Rates for Cirrhosis: Overrepresentation of Disadvantaged Australians. *EClinicalMedicine*. 2019 Jun 13; 11:44-53
11. Nicoll AJ, Roberts SK, Lim R, Mitchell J, Weltman M, George J, Wigg A, Stuart K, Gow P, MacQuillan G, Tse E, Levy M, Sood S, Zekry A, Cheng W, Mitchell J, **Skoien R**, Sievert W, Strasser SI, McCaughan GW; ALA Clinical Research Network, Gastroenterological Society of Australia. Beneficial response to mycophenolate mofetil by patients with autoimmune hepatitis who have failed standard therapy, is predicted by older age and lower immunoglobulin G and INR levels. *Aliment Pharmacol Ther*. 2019 May;49(10):1314-1322
12. Weis A, Marquart L, Calvopina DA, Genz B, Ramm GA, **Skoien R**. Serum MicroRNAs as Biomarkers in Hepatitis C: Preliminary Evidence of a MicroRNA Panel for the Diagnosis of Hepatocellular Carcinoma. *Int J Mol Sci*. 2019 Feb 17;20(4)
13. **Devereaux BM**, Taylor ACF, Athan E, Wallis DJ, Brown RR, Grieg SM, Bailey FK, Vickery K, Wardle E, Jones DM. Simethicone use during gastrointestinal endoscopy: Position statement of the Gastroenterological Society of Australia. *J Gastroenterol Hepatol*, 2019 June 26
14. Choi K, Karunairajah A, Flynn DE, Kaurnairajah A, Hughes A, Bhasin A, **Devereaux B**, Chandrasegaram M. Management of infected pancreatic necrosis in the setting of concomitant rectal cancer: A case report and review of literature. *World J Gastrointest Surg*, 2019;11:237-246
15. Maydeo A, Rerknimitr R, Lau J, Aljebreen A, Niaz S, Itoi T, Ang TL, Reichenberger J, Seo DW, Ramchandani M, **Devereaux B**, Lee JK, Goenka M, Sud R, Nguyen N, Kochhar R, Peetermans J, Goswamy P, Rousseau M, Bhandari S, Angsuwathcharakon, Tang R, Teoh A, Almadi M, Lee YN, Moon JH. Cholangioscopy-guided lithotripsy demonstrated high success rate for difficult bile duct stone clearance in a single session of ERCP – results from a large multi-national registry. *Endoscopy* 2019 Jun 27
16. Greenland KB, **Devereaux B**. High flow nasal oxygen: Urgent need to standardize the terminology. *Anaesth Intensive Care* 2019; 47:307308
17. **Devereaux BM**, Athan E, Brown RR, Greig SM, Jones DM, Bailey FK, Wallis DJ, Singh R. Australian infection control in endoscopy consensus statements on Carbapenemase-producing Enterobacteriaceae. *J Gastroenterol Hepatol* 2019; 34:650-658
18. Wynne K, **Devereaux B**, Dornhorst A. Diabetes of the exocrine pancreas. *J Gastroenterol Hepatol* 2019; 34:346-354
19. Dube U, Ibanez L, Budde JP, Benitez BA, Davis AA, Harari O, Iles MM, Law MH, Brown KM; 23andMe Research Team; Melanoma-Meta-analysis Consortium, Cruchaga C. Overlapping genetic architecture between Parkinson disease and melanoma. *Acta Neuropathol*. 2019 Dec 16. doi: 10.1007/s00401-019-02110-z
20. Hall CV, Lord A, Betzel R, Zakrzewski M, Simms LA, Zalesky A, **Radford-Smith G**, Cocchi L. Co-existence of Network Architectures Supporting the Human Gut Microbiome. *iScience*. 2019 Dec 20; 22:380-391. doi: 10.1016/j.isci.2019.11.032. Epub 2019 Nov 21
21. Shen EX, Lord A, Doecke JD, Hanigan K, Irwin J, Cheng RKY, **Radford-Smith G**. A validated risk stratification tool for detecting high-risk small bowel Crohn's disease. *Aliment Pharmacol Ther*. 2020 Jan;51(2):281-290. doi: 10.1111/apt.15550. Epub 2019 Nov 26
22. Ramsey KA, Chen ACH, Radicioni G, Lourie R, Martin M, Broomfield A, Sheng YH, Hasnain SZ, **Radford-Smith G**, Simms LA, Burr L, Thornton DJ, Bowler SD, Livengood S, Ceppe A, Knowles MR, Donaldson SH, Hill DB, Ehre C, Button B, Alexis NE, Kesimer M, Boucher RC, McGuckin MA. Airway Mucus Hyperconcentration in Non-Cystic Fibrosis Bronchiectasis. *Am J Respir Crit Care Med*. 2019 Nov 25. doi: 10.1164/rccm.201906-1219OC
23. Patrick D, Doecke JD, Irwin J, Hanigan K, Simms LA, Howlett M, **Radford-Smith G**. Short term colectomy is avoided in over half of regional patients failing medical therapy for acute severe ulcerative colitis with co-ordinated transfer and tertiary care. *Intern Med J*. 2019 Oct 7. doi: 10.1111/imj.14649

## Journal Articles (cont)

24. Wu Y, Ghaly S, Kerr S, Jackson B, Hanigan K, Martins D, Krishnaprasad K, Mountfield RE, Whiteman DC, Bampton PA, Geary RB, **Radford-Smith G**, Lawrance IC. Level of UV Exposure, Skin Type, and Age Are More Important than Thiopurine Use for Keratinocyte Carcinoma Development in IBD Patients. *Dig Dis Sci*. 2019 Sep 6. doi: 10.1007/s10620-019-05818-w. [Epub ahead of print]
25. Faleiro R, Liu J, Karunarathne D, Edmundson A, Winterford C, Nguyen TH, Simms LA, **Radford-Smith G**, Wykes M. Crohn's disease is facilitated by a disturbance of programmed death-1 ligand 2 on blood dendritic cells. *Clin Transl Immunology*. 2019 Jul 25;8(7): e01071. doi: 10.1002/cti2.1071. eCollection 2019
26. Romagnoni A, Jégou S, Van Steen K, Wainrib G, Hugot JP. Comparative performances of machine learning methods for classifying Crohn Disease patients using genome-wide genotyping data.; International Inflammatory Bowel Disease Genetics Consortium (IIBDGC). *Sci Rep*. 2019 Jul 17;9(1):10351. doi: 10.1038/s41598-019-46649-z
27. Julsgaard M, Hvas CL, Geary RB, Gibson PR, Fallingborg J, Sparrow MP, Bibby BM, Connell WR, Brown SJ, Kamm MA, Lawrance IC, Vestergaard T, Svenningsen L, Baekdal M, Kammerlander H, Walsh A, Boysen T, Bampton P, **Radford-Smith G**, Kjeldsen J, Andrews JM, Subramaniam K, Moore GT, Jensen NM, Connor SJ, Wildt S, Wilson B, Ellard K, Christensen LA, Bell SJ. Anti-TNF Therapy in Pregnant Women With Inflammatory Bowel Disease: Effects of Therapeutic Strategies on Disease Behavior and Birth Outcomes.. *Inflamm Bowel Dis*. 2019 May 29. pii: izz110. doi: 10.1093/ibd/izz110. [Epub ahead of print]
28. Duplicate with last publication Elliott TM, Lord A, Simms LA, **Radford-Smith G**, Valery PC, Gordon LG. Evaluating a risk assessment tool to improve triaging of patients to colonoscopies. *Intern Med J*. 2019 Feb 28. doi: 10.1111/imj.14267
29. Choy MC, Seah D, Faleck DM, Shah SC, Chao CY, An YK, **Radford-Smith G**, Bessissow T, Dubinsky MC, Ford AC, Churilov L, Yeomans ND, De Cruz PP. Systematic Review and Meta-analysis: Optimal Salvage Therapy in Acute Severe Ulcerative Colitis. *Inflamm Bowel Dis*. 2019 Jun 18;25(7):1169-1186. doi: 10.1093/ibd/izy383
30. de Boer NKH; Thiopurine Working Group. Thiopurine Therapy in Inflammatory Bowel Diseases: Making New Friends Should Not Mean Losing Old Ones. *Gastroenterology*. 2019 Jan;156(1):11-14
31. **Satchwell JB**, & Grover SC. Taenia solium in the Small Intestine. *Clinical Gastroenterology and Hepatology*. 2019. doi.org/10.1016/j.cgh.2019.04.075
32. Marsh, A., Kinneally, J., Robertson, T., Lord, A., Young, A., & **Radford-Smith, G.** (2019). Food avoidance in outpatients with Inflammatory Bowel Disease—Who, what and why. *Clinical Nutrition ESPEN*; 31: 10-16.

## Book Chapters / Letters

1. **Leggett B.** Section author of 'Colonoscopic Surveillance after Polypectomy' in Cancer Council Australia Surveillance Colonoscopy Guidelines Working Party. Clinical practice guidelines for surveillance colonoscopy. Sydney: Cancer Council Australia. Version URL: <https://wiki.cancer.org.au/australiawiki/index.php?oldid=208067> 2019
2. **Appleyard M.** Section author of 'Quality of colonoscopy' in Cancer Council Australia Surveillance Colonoscopy Guidelines Working Party. Clinical practice guidelines for surveillance colonoscopy. Sydney: Cancer Council Australia. Version URL: <https://wiki.cancer.org.au/australiawiki/index.php?oldid=208067> 2019.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **Leggett, B.** Hereditary Colon Cancer: recognition, surveillance and chemoprevention, Australian Gastroenterology Week, 2019
2. **Gonsalkorala, ES.** Colonoscopy National Standards, Provincial Surgeons of Australia Annual Scientific Conference, Ballarat VIC, 2019
3. **Grimpen, F.** Suspected SI Bleeding: What to do next and when, Australian Gastroenterology Week, 2019
4. **Walsh, P.** Endoscopy in the post metabolic therapy patient, Australian Gastroenterology Week, 2019
5. **Walsh, P.** Resection and Plication (RAP) technique, a novel endoscopic option for the post bariatric patient with severe GORD, Australia Gastroenterology week, 2019
6. **Walsh, P.** Resection and Plication (RAP) technique, a novel endoscopic option for the post bariatric patient with severe GORD, Australian & New Zealand Metabolic and Obesity surgery Society 2019, Brisbane
7. **Walsh, P.** Endo-reflux procedure post bariatric surgery – The RAP, Auckland Bariatric Symposium, 2019
8. **Devereaux, B.** Approach to the pancreatic mass: Tissue acquisition and staging, Australian Gastroenterology Week, 2019
9. **Devereaux, B.** Tools and skills necessary to begin a cholangiopancreatography practice, Digestive Diseases Week, San Diego USA, 2019
10. **Devereaux, B.** State of the art approach to pancreatic mass. EndoQE 6<sup>th</sup> International Endoscopy Workshop, Malaysia, 2019
11. **Devereaux, B.** Use of simethicone in endoscopy. Gastrointestinal Associates Workshop, Malaysia, 2019
12. **Devereaux, B.** Intra-ductal imaging: cholangioscopy and pancreatoscopy. Spyglass Symposium / Spyglass Roadshow, Singapore / Taiwan / China, 2019
13. **Radford-Smith, G.** Acute Severe Ulcerative Colitis – evolving paradigms, when to operate, Australian Gastroenterology Week, 2019
14. **Radford-Smith G.** Inflammatory Bowel Disease and Spondyloarthropathy, Asia Pacific League of Associations for Rheumatology, Brisbane, 2019
15. **Lim, MH.** The Role of Telehealth in IBD care, IBD Masterclass, Melbourne, 2019.

## Oral Presentations

1. **Lafta, A.** Lumen occupying pedunculated polyp: overcoming old challenges to face new ones, Australia Gastroenterology Week, 2019
2. **White, L.** Introduction of Intestinal Ultrasound to a Tertiary Gastroenterology Department, Acceptability and a New Model of Care". St Vincent's Hospital National IBD Symposium, Research Fellows Meeting, March 2019
3. **Satchwell J.** Impact of a game-based learning intervention in simulation-based endoscopy training on colonoscopy performance in novice endoscopists- A randomised trial, Digestive Diseases Week 2019, San Diego, USA.

## Poster Presentations

1. Macrae F, Boussioutas A, Flanders B, Lockett T, Spigelman A, **Appleyard M**, Cameron D, & Clarke J. Can Butyrate prevent colon cancer? The AusFAP study. InSiGHT conference 2019, New Zealand
2. Khan S, Chandran S, Chin J, Karim S, Mangira D, Ermerak G, Trinh A, **Kia CY**, Mules T, Zad M, Ang TL, Johns E, Tee D, Kaul A, Fisher L, Cameron R, Welch C, Lim G, Metz A, Moss A, Bassan MS, St John A, Hourigan L, Tagkalidis P, Weilert F, Vaughan R, & **Devereaux B.** Endoscopic ultrasound-guided drainage of pancreatic fluid collections using a novel lumen-apposing metal stent: A multi-center Australian, New Zealand and Asian experience. Digestive Diseases Week 2019, San Diego, USA
3. **O'Sullivan T, Hanigan K, & Appleyard M.** Sessile serrated adenoma detection rates in a high-volume tertiary centre. Australian Gastroenterology Week 2019, Adelaide
4. **Hanigan K, Dixon A, Grimpen F, Leggett B, & Appleyard M.** Nurse led validation of surveillance intervals leads to improved concurrence of surveillance recommendations with NHMRC guidelines. Australian Gastroenterology Week 2019, Adelaide
5. Ooi M, Wong S, Duong T, **Appleyard M**, Rayner CK, **Grimpen F**, & Nguyen N. Advantages of cap-assisted device in the endoscopic management of food bolus obstruction in the esophagus. A multicentre randomized, controlled trial. UEG Week 2019, Spain
6. **Wu T**, Vandeleur A, & **Rahman T.** Fatigue in Colonoscopy. UEG Week 2019, Spain
7. **Walsh P, Lafta A**, Skinner C, & Hopkins G. What's next when patients fail Overstitch revision of the Gastro-jejunal anastomosis? Australian & New Zealand Metabolic and Obesity Surgery Society 2019, Brisbane
8. **White L.** Gastrointestinal ultrasound in Acute severe Ulcerative Colitis. Australian Gastroenterology Week 2019, Adelaide
9. **White L.** Combined intestinal ultrasound and faecal calprotectin in the assessment of disease activity in Inflammatory Bowel Disease, Australian Gastroenterology Week 2019, Adelaide
10. Saperia, J., Genis, S., Scaffidi, M. A., **Satchwell, J. B.**, Gimpaya, N., Tham, D., & Grover, S. C. Impact of a virtual reality intervention on ergonomics in colonoscopy, Canadian Digestive Diseases Week, 2019
11. **Satchwell, J. B.**, et al. Impact of a game-based learning intervention in simulation-based endoscopy training on colonoscopy performance in novice endoscopists- A randomised controlled trial, Canadian Digestive Diseases Week, 2019
12. Saperia, J., Genis, S., Scaffidi, M. A., **Satchwell, J. B.**, Gimpaya, N., Tham, D., & Grover, S. C. Impact of a virtual reality intervention on ergonomics in colonoscopy, Digestive Diseases Week, 2019, San Diego, USA
13. Low, D. J., Gimpaya, N., **Satchwell, J. B.**, Elsolh, K., Genis, S., Lin, J., & Grover, S. C. Automated Computer Detection of Colonoscopy Completion Using Deep Convolutional Neural Networks, Digestive Diseases Week, 2019, San Diego, USA
14. Management, Outcomes and Survival of an Australian IgG4-sclerosing cholangitis Cohort: The MOSAIC study. Kemp W, Majeed A, Mitchell J, Majumdar A, Tse E, **Skoien R**, Croagh D, Dev A, Gao H, Weltman M, Craig P, Stuart K, Cheng W, Edmunds S, Lee E, Sood S, Metz A, Ravikulan A, Thompson A, Sinclair M, Beswick L, Nicoll A, Riordan S, Braund A, Muller K, Roberts SK. Australian Gastroenterology Week 2019, Adelaide.

## Details of staff that completed their PhDs in 2019 within your department / research group

Name	Name of Project	Completed Date	Affiliated University/ies
Anna Weis	Investigating the potential of circulating microRNAs as non-invasive biomarkers in cirrhosis and hepatocellular carcinoma	May 2019	University of Queensland



# DEPARTMENT OF INFECTIOUS DISEASES

Professor McCarthy and his group at (QIMR-B) continued to publish critically important research addressing drug therapy for malaria and other parasitic infections.

Bridget Barber promoted to position of Team Head at QIMR Berghofer and promoted to A/Prof (Principal Research Fellow) at Menzies School of Health Research.

Bridget Barber awarded an NHMRC project grant (\$333,081, 2019-2020) as CIA to complete a randomised controlled trial of paracetamol for the attenuation of acute kidney injury in knowlesi malaria.

Bridget Barber awarded an RACP Research Establishment Fellowship (\$50,000, funding year 2019) for the development of a *P. knowlesi* parasite bank for use in malaria volunteer infection studies.

Bridget Barber co-chaired a symposium session on Zoonotic malaria at American Society of Tropical Medicine and Hygiene, Washington, November 2019.

## 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>Paul Chapman</b>	PhD, UQ (2016-2020)	Vaccination with an attenuated hookworm larvae	<b>James McCarthy</b> , Alex Loukas
Johannes Hoehensteiger	Honours Molecular Biosciences	Bacterial and host factors contributing to rapid death in <i>P. aeruginosa</i> sepsis	Tim Wells, <b>Kate McCarthy</b> , Graham Leggat
<b>Stephen Woolley</b>	MD, LSTMH (2019-2021)	Utilising volunteer infection studies for the characterisation of anaemia in early malaria	<b>Bridget Barber</b> , David Lalloo, <b>James McCarthy</b>
<b>John Woodford</b>	PhD, UQ (2016-2020)	Microcirculatory disturbance in malaria	<b>James McCarthy</b> , Nicholas Anstey, <b>Bridget Barber</b>
Daniel Cooper	PhD, (2018-2020)	<i>Plasmodium knowlesi</i> malaria: evaluating the burden of disease, and improving outcomes from acute kidney injury	<b>Bridget Barber</b> , Nicholas Anstey, Matthew Grigg
Angelica Tan	PhD, (2019-2021)	<i>Plasmodium knowlesi</i> and other zoonotic malaria species in Sabah, Malaysia: Molecular detection, red blood cell interactions, and exposure trends within a longitudinal cohort	Matthew Grigg, <b>Bridget Barber</b> , Nicholas Anstey
Anand Odedra	PhD University of Liverpool (2017-)	Transmission of Malaria	<b>James McCarthy</b> , David Lalloo

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/ external/in-kind)</i>	Research Program	Affiliated University/ies
<b>James McCarthy</b>	NHMRC Practitioner Fellow	0.4	Externally Funded	QIMR Berghofer	QIMR Berghofer <i>(2002-current)</i>
<b>David Paterson</b>	Director	0.8	UQ		University of Queensland
<b>Sumudu Britton</b>	Research post-doctoral fellow	0.2	External	Malaria biomarkers for malaria elimination	University of Queensland, QIMR Berghofer Medical Research Institute
<b>Simon Holz</b>	Research Nurse	0.4	Externally Funded	ASAP Trial; GAMECHANGER Trial	University of Queensland
<b>Margarette Sommerville</b>	Research Nurse	0.2	Externally-funded	MOBILISE Trial	University of Queensland
<b>Bridget Barber</b>	Team Head, QIMR Berghofer	0.5	External	Malaria pathophysiology and clinical trials	University of Queensland
<b>Bridget Barber</b>	Principal Research Fellow, Menzies School of Health Research	0.1	External	Malaria pathophysiology	Charles Darwin University

## Honorary Positions: e.g. Non-RBWH staff with research appointments at RBWH

Name	Position	FTE	Research Program	Affiliated University/ies
Stephen Woolley	Honorary Research Fellow	0.1		Queensland Institute of Medical Research – Berghofer; University of Liverpool

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Sumudu Britton</b>	Paul Griffin, Clare Nourse	Management of HIV in pregnancy- retrospective analysis to optimise healthcare
<b>Kate McCarthy</b>	<b>Richard Hanly</b> ( <i>Orthopaedics</i> ), <b>Nigel Pinto</b> ( <i>Vascular</i> ), <b>Manoj Bhatt</b> ( <i>Nuclear Medicine</i> ), <b>Peter Donovan</b> ( <i>General Medicine</i> ), <b>David Paterson</b>	Utilisation of highly bioavailable oral antibiotic therapy treatment of diabetic foot osteomyelitis with stratification by imaging at 6 weeks at the coalface: a prospective cohort study at a tertiary institution (Coalface Study)
<b>Kate McCarthy</b>	Tiffany Harris-Brown ( <i>UQ</i> ), Esther Schmits ( <i>UQ</i> ), <b>Amy Legg</b> ( <i>Pharmacy</i> ), <b>David Paterson</b>	Utilisation of ambulatory pumps in the inpatient setting to administer long term antibiotic therapy: A risk reduction and rehabilitation strategy (MOBILISE)
<b>Kate McCarthy</b>	<b>Adam Stewart</b> , <b>Melanie Halford</b> , <b>Amy Legg</b> ( <i>Pharmacy</i> )	Temperature variation of OPAT antibiotic bags over summer in a subtropical region of Australia
<b>Kate McCarthy</b>	Majed Almarzooqi ( <i>UQ</i> ), Anna Hicks ( <i>UQ</i> ), <b>Angela White</b> ( <i>Psychology</i> )	Defining patient “needs” during a Hospital in the Home admission: An unconsidered key performance indicator
<b>James McCarthy</b>	Medicines for Malaria/multiple Pharma/Bill and Melinda Gates Foundation	Human Challenge Studies in malaria
<b>James McCarthy</b>	<b>Paul Thomas</b> ( <i>Nuclear Medicine</i> )	In vivo imaging in malaria
<b>James McCarthy</b>	Robert Sauerwein ( <i>Netherlands</i> )	Transmission studies in malaria

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

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>James McCarthy</b>	Michael Good, Don McManus, Istvan Toth, Nicholas Anstey, Denise Doolan, Christian Engwerda, Alexander Loukas, Richard Price	Tropical diseases: Translating discoveries into better health
<b>James McCarthy</b>	Gonzalo Domingo ( <i>PATH</i> )	Biomarkers for Malaria Elimination
<b>James McCarthy</b>	Merck; Wellcome Trust	Evaluation of MK5717
<b>James McCarthy</b>	CADILA HEALTHCARE LIMITED ( <i>Zydus</i> )	Evaluation of ZY-19489

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Nina Hall	<b>Andrew Redmond</b> , Paul Memmott ( <i>UQ</i> ), Barb Shaw, Dean Gooda, Peppi Simpson, Trish Baker ( <i>Anyinginyi Health Service</i> )	Hygiene, Housing and Infection
<b>Kate McCarthy</b>	Robert Commons ( <i>RDH</i> ), Edward Raby ( <i>Fiona Stanley Hospital</i> ), Peter Lazzarini ( <i>QUT</i> )	Diabetic foot INfection LonGitudinal Outcome study (DINGO)
<b>Kate McCarthy</b>	Tim Wells ( <i>UQ</i> ), Johannes Hoehensteiger ( <i>UQ</i> )	Novel serum-resistance mechanism for <i>Pseudomonas aeruginosa</i> in bacteremia
Clare Nourse, Mandy Wu, Mandy Seel, Judith Dean, Mattea Lazarou	<b>Sumudu Britton</b>	Management of Syphilis in pregnancy and newborns
<b>James McCarthy</b> , John Woodford	Paul Thomas	In vivo images in malaria
<b>James McCarthy</b> , Anand Odedra	<b>Glenn Kennedy</b> ( <i>Haematology</i> )	Apheresis in malaria

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Andrew Redmond</b>	Best research presentation	2019 RBWH Symposium



## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Kate McCarthy, Richard Hanly, Nigel Pinto, Manoj Bhatt, Peter Donovan, David Paterson</b>	Infectious Diseases, Orthopedics, Vascular, General Medicine	Utilisation of highly bioavailable oral antibiotic therapy treatment of diabetic foot osteomyelitis with stratification by imaging at 6 weeks at the coalface: a prospective cohort study at a tertiary institution (Coalface Study)	RBWH Scholarship	\$40,000	\$12,820	2018-2019
<b>Bridget Barber</b> (CIA), Matthew Grigg, Tim William, Arjen Dondorp, Tsin Yeo		Targeting acute kidney injury in knowlesi malaria	NHMRC	\$333,081	\$200,000	2019-2020
Nicholas Anstey, <b>Bridget Barber</b> , Matthew Grigg, Inke Lubis, Farah Courtier, Rintis Noviyanti		Establishing a network for surveillance of emerging zoonotic malaria in Indonesia (ZOOMAL)	Australian Centre for International Agricultural Research	\$250,000	\$100,00	2019-2020
<b>Bridget Barber</b>		The development of a P. knowlesi cryobank for use in controlled human malaria infection studies	RACP	\$50,000	\$50,000	2019
Timothy William, Nicholas Anstey, Jayaram Menon, Tsin Yeo, <b>Bridget Barber</b>		Incidence and clinical spectrum of Plasmodium knowlesi malaria in Sabah, Malaysia	National Institute of Health	\$903,688	\$100,000	2015-2020
<b>James McCarthy</b>	Infectious Diseases	Centre for Research Excellence in Malaria Elimination	NHMRC	\$2,470,291	\$500,315.30	2017-2022
<b>James McCarthy</b>	Infectious Diseases	T-follicular helper cell subsets that induce protective anti-Plasmodium falciparum antibodies	NHMRC	\$456,261	\$152,087.16	2017-2019
<b>James McCarthy</b>		NHMRC Practitioner Fellowship GNT1135955 Project: Translational Studies in Malaria	NHMRC	\$507,679	\$100,331.85	2018-2022
<b>James McCarthy</b> , Nicholas Anstey, Denise Doolan, Christian Engwerda, Michael Good, Alex Loukas, Don McManus, Richard Price, Istvan Toth		NHMRC Program Grant GNT1132975 Project: Tropical diseases: Translating discoveries into better health	NHMRC	\$20,321,882	\$4,016,182.25 <i>(Total)</i> \$446,245.21 <i>(McCarthy share)</i>	2018-2022

## 2019 Research Publications

### Journal Articles

1. Bialasiewicz S, Duarte TPS, Nguyen SH, Sukumaran V, **Stewart A**, Appleton S, Pitt ME, Bainomugisa A, Jennison AV, Graham R, Coin LJM, **Hajkowicz K**. Rapid diagnosis of *Capnocytophaga canimorsus* septic shock in an immunocompetent individual using real-time Nanopore sequencing: a case report. BMC Infect Dis. 2019 Jul 24;19(1):660
2. Doyle J, Raggatt M, Slavin M, McLachlan SA, Strasser SI, Sasadeusz JJ, Howell J, **Hajkowicz K**, Nandurkar H, Johnston A, Bak N, Thompson AJ. Hepatitis B management during immunosuppression for haematological and solid organ malignancies: an Australian consensus statement. Med J Aust. 2019 Jun;210(10):462-468
3. **O'Callaghan K, Tapp S, Hajkowicz K, Legg A, McCarthy KL**. Outcomes of patients with a history of injecting drug use and receipt of outpatient antimicrobial therapy. Eur J Clin Microbiol Infect Dis. 2019 Mar;38(3):575-580
4. Babich T, Naucler P, Valik JK, Giske CG, Benito N, Cardona R, Rivera A, Pulcini C, Abdel Fattah M, Haquin J, Macgowan A, Grier S, Gibbs J, Chazan B, Yanovskaya A, Ben Ami R, Landes M, Neshler L, Zaidman-Shimshovitz A, **McCarthy K, Paterson DL**, et al. Ceftazidime, carbapenems, or piperacillin-tazobactam as single definitive therapy for Pseudomonas aeruginosa bloodstream infection - a multi-site retrospective study. Clin Infect Dis. 2019 Jul 17. pii: ciz668. doi: 10.1093/cid/ciz668
5. Bell S, Dean J, Lemoire J, Debattista J, Driver G, Gilks CG, **Redmond A**, Williams O. Integrated HIV self-testing (HIVST) service delivery in Queensland for policy and service development: study protocol. AIDS Care 2019;31(2):207-215; doi:10.1080/09540121.2018.1516859

## Journal Articles (cont)

6. Babich T, Naucler P, Valik JK, Giske CG, Benito N, Cardona R, Rivera A, Pulcini C, Fattah MA, Haquin J, Macgowan A, Grier S, Chazan B, Yanovskay A, Ami RB, Landes M, Neshet L, Zaidman-Shimshovitz A, **McCarthy K, Paterson DL** et al. Risk factors for mortality among patients with *Pseudomonas aeruginosa* bacteremia - retrospective multicenter study. *Int J Antimicrob Agents*. 2019 Nov 23. pii: S0924-8579(19)30318-8. doi: 10.1016/j.ijantimicag.2019.11.004
7. **Stewart AG**, Harris PNA, Chatfield M, Evans SR, vanDuin D, **Paterson DL**. Modern clinician-initiated trails to determine optimal therapy for multi-drug resistant Gram-negative infections. *Clin Infect Dis* 2019 Nov 18. pii: ciz1132. doi: 10.1093/cid/ciz1132
8. **Paterson DL**, Bonomo RA. Multidrug-Resistant Gram-Negative Pathogens: The Urgent Need for 'Old' Polymyxins *Adv Exp Med Biol*. 2019;1145:9-13. doi: 10.1007/978-3-030-16373-0\_2
9. Choudhury MA, Sidjabat HE, Zowawi HM, Marsh PhD N, Larsen E, Runnegar PhD N, **Paterson DL**, McMillan DJ, Rickard CM. Skin colonization at peripheral intravenous catheter insertion sites increases the risk of catheter colonization and infection. *Am J Infect Control*. 2019 Dec;47(12):1484-1488. doi: 10.1016/j.ajic.2019.06.002
10. Mitchell BG, Hall L, White N, Barnett AG, Halton K, **Paterson DL**, Riley TV, Gardner A, Page K, Farrington A, Gericke CA, Graves N. An environmental cleaning bundle and health-care-associated infections in hospitals (REACH): a multicentre, randomised trial. *Lancet Infect Dis*. 2019 Apr;19(4):410-418. doi: 10.1016/S1473-3099(18)30714-X
11. Lin YW, Abdul Rahim N, Zhao J, Han ML, Yu HH, Wickremasinghe H, Chen K, Wang J, **Paterson DL**, Zhu Y, Rao GG, Zhou QT, Forrest A, Velkov T, Li J. Novel Polymyxin Combination with the Antiretroviral Zidovudine Exerts Synergistic Killing against NDM-Producing Multidrug-Resistant *Klebsiella pneumoniae*. *Antimicrob Agents Chemother*. 2019 Mar 27;63(4). pii: e02176-18. doi: 10.1128/AAC.02176-18
12. Evans SR, Follmann D, Liu Y, Holland T, Doernberg SB, Rouphael N, Hamasaki T, Jiang Y, Lok JJ, Tran TTT, Harris AD, Fowler VG, Boucher H, Kreiswirth BN, Bonomo RA, Van Duin D, **Paterson DL**, Chambers H. Sequential, Multiple-Assignment, Randomized Trials for Comparing Personalized Antibiotic Strategies (SMART-COMPASS). *Clin Infect Dis*. 2019 May 17;68(11):1961-1967. doi: 10.1093/cid/ciy912
13. Williamson DA, Howden BP, **Paterson DL**. The risk of resistance: what are the major antimicrobial resistance threats facing Australia? *Med J Aust*. 2019 Aug;211(3):103-105.e1. doi: 10.5694/mja2.50249
14. **Lipman J**, Brett SJ, De Waele JJ, Cotta MO, Davis JS, Finfer S, Glass P, Knowles S, McGuinness S, Myburgh J, **Paterson DL**, Peake S, Rajbhandari D, Rhodes A, **Roberts JA**, Shirwadkar C, Starr T, Taylor C, Billot L, Dulhunty JM. A protocol for a phase 3 multicentre randomised controlled trial of continuous versus intermittent  $\beta$ -lactam antibiotic infusion in critically ill patients with sepsis: BLING III. *Crit Care Resusc*. 2019 Mar;21(1):63-68
15. Harris PNA, Tambyah P, **Paterson DL**. Antibiotics for Ceftriaxone Resistant Gram-Negative Bacterial Bloodstream Infections-Reply. *JAMA*. 2019 Feb 12;321(6):613. doi: 10.1001/jama.2018.19353
16. Cameron JK, Hall L, Tong SYC, **Paterson DL**, Halton K. Incidence of community onset MRSA in Australia: least reported where it is most prevalent. *Antimicrob Resist Infect Control*. 2019 Feb 12; 8:33. doi: 10.1186/s13756-019-0485-7
17. Peri AM, Doi Y, Potoski BA, Harris PNA, **Paterson DL**, Righi E. Antimicrobial treatment challenges in the era of carbapenem resistance. *Diagn Microbiol Infect Dis*. 2019 Aug;94(4):413-425. doi: 10.1016/j.diagmicrobio.2019.01.020
18. White NM, Barnett AG, Hall L, Mitchell BG, Farrington A, Halton K, **Paterson DL**, Riley TV, Gardner A, Page K, Gericke CA, Graves N. Cost-effectiveness of an environmental cleaning bundle for reducing healthcare associated infections. *Clin Infect Dis*. 2019 Jul 30. pii: ciz717. doi: 10.1093/cid/ciz717
19. Marimuthu K, Ng OT, Cherng BPZ, Fong RKC, Pada SK, De PP, Ooi ST, Smitasin N, Thoon KC, Krishnan PU, Ang MLT, Chan DSG, Kwa ALH, Deepak RN, Chan YK, Chan YFZ, Huan X, Zaw Linn K, Tee NWS, Tan TY, Koh TH, Lin RTP, Hsu LY, Sengupta S, **Paterson DL**, Perencevich E, Harbarth S, Teo J, Venkatchalam I; CaPES Study Group. Antecedent Carbapenem Exposure as a Risk Factor for Non-Carbapenemase-Producing Carbapenem-Resistant Enterobacteriaceae and Carbapenemase-Producing Enterobacteriaceae. *Antimicrob Agents Chemother*. 2019 Sep 23;63(10). pii: e00845-19. doi: 10.1128/AAC.00845-19
20. Burkett E, Carpenter CR, Arendts G, Hullick C, **Paterson DL**, Caterino JM. Diagnosis of urinary tract infection in older persons in the emergency department: To pee or not to pee, that is the question. *Emerg Med Australas*. 2019 Oct;31(5):856-862. doi: 10.1111/1742-6723.13376
21. Huber CA, Pflüger V, Reed S, Cottrell K, Sidjabat HE, Ranasinghe A, Zowawi HM, Harris P, **Paterson DL**. Bacterial identification using a SCIEX 5800 TOF/TOF MALDI research instrument and an external database. *J Microbiol Methods*. 2019 Sep; 164:105685. doi: 10.1016/j.mimet.2019.105685.
22. Yadav R, Bergen PJ, Rogers KE, Kirkpatrick CMJ, Wallis SC, Huang Y, Bulitta JB, **Paterson DL**, **Lipman J**, Nation RL, **Roberts JA**, Landersdorfer CB. Meropenem-Tobramycin Combination Regimens Combat Carbapenem-Resistant *Pseudomonas aeruginosa* in the Hollow-Fiber Infection Model Simulating Augmented Renal Clearance in Critically Ill Patients. *Antimicrob Agents Chemother*. 2019 Dec 20;64(1). pii: e01679-19. doi: 10.1128/AAC.01679-19
23. Marsh N, Larsen E, **Tapp S, Sommerville M**, Mihala G, Rickard C. Management of hospital in the home (HITH) peripherally inserted central catheters: A retrospective cohort study. *Home Health Care Management and Practice* 2019. Doi: 10.1177/1084822319873334
24. Loughland JR, Woodberry T, Boyle MJ, Tipping PE, Piera KA, Amante FH, Kenangalem E, Price RN, Engwerda CR, Anstey NM, **McCarthy JS**, Minigo G. *Plasmodium falciparum* Activates CD16+ Dendritic Cells to Produce Tumor Necrosis Factor and Interleukin-10 in Subpatent Malaria. *J Infect Dis*. 2019 Jan 29;219(4):660-671
25. Jang IK, Tyler A, Lyman C, Kahn M, Kalnoky M, Rek JC, Arinaitwe E, Adrama H, Murphy M, Imwong M, Ling CL, Proux S, Haohankunnatham W, Rist M, Seillie AM, Hanron A, Daza G, Chang M, Das S, Barney R, Rashid A, Landier J, Boyle DS, Murphy SC, **McCarthy JS**, Nosten F, Greenhouse B, Domingo GJ. Simultaneous Quantification of Plasmodium Antigens and Host Factor C-Reactive Protein in Asymptomatic Individuals with Confirmed Malaria by Use of a Novel Multiplex Immunoassay. *J Clin Microbiol*. 2019 Jan;57(1)
26. Vaz Nery S, Traub RJ, **McCarthy JS**, Clarke NE, Amaral S, Llewellyn S, Weking E, Richardson A, Campbell SJ, Gray DJ, Vallely AJ, Williams GM, Andrews RM, Clements ACA. WASH for WORMS: A Cluster-Randomized Controlled Trial of the Impact of a Community Integrated Water, Sanitation, and Hygiene and Deworming Intervention on Soil-Transmitted Helminth Infections. *Am J Trop Med Hyg*. 2019 Mar;100(3):750-761
27. Cooper MM, Loiseau C, **McCarthy JS**, Doolan DL. Human challenge models: tools to accelerate the development of malaria vaccines. *Expert Rev Vaccines*. 2019 Mar;18(3):241-251

## Journal Articles (cont)

28. Vaz Nery S, Clarke NE, Richardson A, Traub R, **McCarthy JS**, Gray DJ, Valley AJ, Williams GM, Andrews RM, Campbell SJ, Clements ACA. Risk factors for infection with soil-transmitted helminths during an integrated community level water, sanitation, and hygiene and deworming intervention in Timor-Leste. *Int J Parasitol.* 2019 Apr;49(5):389-396
29. Woodford J, Collins KA, Odedra A, Wang C, Kyung JJ, Domingo GJ, Watts R, Marquart L, Berriman M, Otto TD, **McCarthy JS**. An experimental human blood stage model for studying *Plasmodium malariae* infection. *J Infect Dis.* 2019 Mar 10
30. Collins KA, Rückle T, Elliott S, Marquart L, Ballard E, Chalou S, Griffin P, Möhrle JJ, **McCarthy JS**. DSM265 at 400 Milligrams Clears Asexual Stage Parasites but Not Mature Gametocytes from the Blood of Healthy Subjects Experimentally Infected with *Plasmodium falciparum*. *Antimicrob Agents Chemother.* 2019 Apr;63(4)
31. Pasay CJ, Yakob L, Meredith HR, Stewart R, Mills PC, Dekkers MH, Ong O, Llewellyn S, Hugo RLE, **McCarthy JS**, Devine GJ. Treatment of pigs with endectocides as a complementary tool for combating malaria transmission by *Anopheles farauti* (s.s.) in Papua New Guinea. *Parasit Vectors.* 2019 Mar 19;12(1):124
32. Rivera-Hernandez T, Carnathan DG, Jones S, Cork AJ, Davies MR, Moyle PM, Toth I, Batzloff MR, **McCarthy JS**, Nizet V, Goldblatt D, Silvestri G, Walker MJ. An Experimental Group A Streptococcus Vaccine That Reduces Pharyngitis and Tonsillitis in a Nonhuman Primate Model. *MBio.* 2019 Apr 30;10(2)
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34. Engelman D, Cantey PT, Marks M, Solomon AW, Chang AY, Chosidow O, Enbiale W, Engels D, Hay RJ, Hendrickx D, Hotez PJ, Kaldor JM, Kama M, Mackenzie CD, **McCarthy JS**, Martin DL, Mengistu B, Maurer T, Negussu N, Romani L, Sokana O, Whitfield MJ, Fuller LC, Steer AC. The public health control of scabies: priorities for research and action. *Lancet.* 2019 Jul 6;394(10192):81-92
35. Ballard E, Wang CYT, Hien TT, Tong NT, Marquart L, Pava Z, Tarning J, O'Rourke P, **McCarthy JS**. A validation study of microscopy versus quantitative PCR for measuring *Plasmodium falciparum* parasitemia. *Trop Med Health.* 2019; 47:49
36. Oyong DA, Loughland JR, SheelaNair A, Andrew D, Rivera FDL, Pira KA, William T, Grigg MJ, Barber BE, Haque A, Engwerda CR, **McCarthy JS**, Anstey NM, Boyle MJ. Loss of complement regulatory proteins on red blood cells in mild malarial anaemia and in *Plasmodium falciparum* induced blood-stage infection. *Malar J.* 2019 Sep 18;18(1):312
37. Barber BE, Grigg MJ, Pira K, Amante FH, William T, Boyle MJ, Minigo G, Dondorp AM, **McCarthy JS**, Anstey NM. Antiphosphatidylserine Immunoglobulin M and Immunoglobulin G Antibodies Are Higher in Vivax Than Falciparum Malaria and Associated With Early Anemia in Both Species. *J Infect Dis.* 2019 Sep 26;220(9):1435-1443
38. Sinxadi P, Donini C, Johnstone H, Langdon G, Wiesner L, Allen E, Duparc S, Chalou S, **McCarthy JS**, Lorch U, Chibale K, Möhrle J, Barnes KI. Safety, tolerability, pharmacokinetics and antimalarial activity of the novel *Plasmodium* phosphatidylinositol 4-kinase inhibitor MMV390048 in healthy volunteers. *Antimicrob Agents Chemother.* 2020 Jan 13
39. **McCarthy JS**, Rückle T, Elliott SL, Ballard E, Collins KA, Marquart L, Griffin P, Chalou S, Möhrle JJ. A Single-Dose Combination Study with the Experimental Antimalarials Artefenomel and DSM265 To Determine Safety and Antimalarial Activity against Blood-Stage *Plasmodium falciparum* in Healthy Volunteers. *Antimicrob Agents Chemother.* 2019 Dec 20;64(1)
40. Wockner LF, Hoffmann I, Webb L, Mordmüller B, Murphy SC, Kublin JG, O'Rourke P, **McCarthy JS**, Marquart L. Growth Rate of *Plasmodium falciparum*: Analysis of Parasite Growth Data from Malaria Volunteer Infection Studies. *J Infect Dis.* 2019 Nov 4. pii: jiz557
41. Aw JYH, Clarke NE, **McCarthy JS**, Traub RJ, Amaral S, Huque MH, Andrews RM, Gray DJ, Clements ACA, Vaz Nery S. *Giardia duodenalis* infection in the context of a community-based deworming and water, sanitation and hygiene trial in Timor-Leste. *Parasit Vectors.* 2019 Oct 18;12(1):491
42. Odedra A, Lalloo DG, Kennedy G, Llewellyn S, **McCarthy JS**. Safety and effectiveness of apheresis in the treatment of infectious diseases: A systematic review. *J Infect.* 2019 Dec;79(6):513-520
43. Vaz Nery S, Traub RJ, **McCarthy JS**, Clarke NE, Amaral S, Llewellyn S, Weking E, Richardson A, Campbell SJ, Gray DJ, Valley AJ, Williams GM, Andrews RM, Clements ACA. WASH for WORMS: A Cluster-Randomized Controlled Trial of the Impact of a Community Integrated Water, Sanitation, and Hygiene and Deworming Intervention on Soil-Transmitted Helminth Infections. *Am J Trop Med Hyg.* 2019 Mar;100(3):750-761
44. **McCarthy JS**, Smith B, Reid M, Berman J, Marquart L, Dobbin C, West L, Read LT, Dow GS. Blood Schizonticidal Activity and Safety of Tafenoquine When Administered as Chemoprophylaxis to Healthy, Nonimmune Participants Followed by Blood Stage *Plasmodium falciparum* Challenge: A Randomized, Double-blind, Placebo-controlled Phase 1b Study. *Clin Infect Dis.* 2019 Jul 18;69(3):480-486.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **Chapman P**. Should we expand faecal microbiota transplantation. National Antimicrobial Resistance Forum 2019
2. **James McCarthy** Learnings from experimental human malaria infection studies. Imperial College, Malaria Network Special Seminar. January 2019. London, UK
3. **James McCarthy** Use of human challenge models in clinical development of compounds. Wellcome Centre for Anti-Infectives Research (WCAIR). May 2019. Dundee, Scotland
4. **James McCarthy** P. vivax Blood Stage challenge studies in Australia. Malaria Infection Study in Thailand (MIST). May 2019. Bangkok, Thailand
5. **James McCarthy** Lessons for CHIVAS from malaria human infection studies, and prospects for Australian human infection studies. Controlled human infection for vaccination against *Streptococcus pyogenes* (CHIVAS) Monash University. August 2019. Melbourne, Victoria.





## Oral Presentations

1. **Chapman P, McCarthy JS, Loukas A.** Vaccination with an attenuated hookworm larval vaccine: preliminary results from a phase Ib clinical trial. American Society for Tropical Medicine and Hygiene 2019
2. **Legg A, Halford M, McCarthy K.** Adequate unbound meropenem levels using continuous infusions community-based outpatient administration. Antimicrobial Society of Australia Conference. 2019
3. **O'Callaghan K, Tapp S, Hajkowicz K, Legg A, McCarthy KL.** Outcomes of patients with a history of injecting drug use and receipt of outpatient antimicrobial therapy. Hospital in the Home Conference. 2019
4. **James McCarthy** Learnings from experimental human malaria infection studies. Lorne Infection and Immunity Conference. February 2019. Lorne, Victoria, Australia
5. **James McCarthy** How are human challenge studies advancing translational research in malaria, Australian Academy of Health and Medical Sciences (AAHMS). October 2019. Perth, WA
6. **James McCarthy** A phase 1a/b, first-in-human, dose-escalation and volunteer infection study of M5717, a first-in-class inhibitor of Plasmodium falciparum eukaryotic translation elongation factor 2. American Society of Tropical Medicine and Hygiene (ASTMH). November 2019.

## Poster Presentations

1. **Parsonson F, Legg A, Halford M, McCarthy K.** Contemporaneous Management of Ampicillin Infusions in the OPAT setting through the use of Therapeutic drug monitoring. Australian Society of Infectious Diseases Conference. 2019
2. **O'Callaghan K, Tapp S, Hajkowicz K, Legg A, McCarthy KL.** Outcomes of patients with a history of injecting drug use and receipt of outpatient antimicrobial therapy. Australian Society of Infectious Diseases Conference. 2019
3. **Britton S-** International conference for research in Plasmodium vivax, Paris, France June 2019
4. **Britton S-** American Society for Tropical Medicine and Hygiene, Washington DC, USA, November 2019
5. **Woodford J, Yeo TS, Piera KA, Weinberg JB, McCarthy JS, Anstey NM, Barber BE.** Endothelial activation in early Plasmodium falciparum and P. vivax infection. Australasian Society of Infectious Diseases, Darwin, May 2019
6. **Barber BE, Grigg MJ, Piera KA, Amante F, William T, Boyle MJ, Dondorp AM, McCarthy JS, Anstey NM.** Anti-phosphatidylserine antibodies are higher in vivax than falciparum malaria and are associated with early anaemia in both species. Australasian Society of Infectious Diseases, Darwin, May 2019
7. **Rebelo M, Khoury DS, Pawliw R, Gower J, Webb L, Pava Z, Webster R, Davenport MP and McCarthy JS.** Drug Testing in Volunteer Infection Studies: The Importance of Blood-Stage Parasite Viability in the Investigation of Antimalarial Drug Efficacy. Malaria Gordon Conference (GRC), Les Diablerets, Switzerland, June 30-July 5 2019
8. **Rebelo M, Khoury DS, Pawliw R, Gower J, Webb L, Pava Z, Webster R, Davenport MP and McCarthy JS.** Drug Testing in Volunteer Infection Studies: Evaluating parasite viability after administration of a novel antimalarial drug candidate in the induced blood stage malaria model. ASTMH 68<sup>th</sup> Annual Meeting, Maryland, USA, November 20-24 2019
9. **Zuleima Pava, Katharine Collins, Rebecca Watts, Fiona Amante, Maria Rebelo, Hayley Mitchell, Matthew Adams, Greg Robinson, Melanie Rampton, Claire Wang, Jörg J Möhrle, James McCarthy.** Investigating human to mosquito transmission of artemisinin resistant parasites using the induced blood stage malaria model. Malaria Gordon Conference (GRC), Les Diablerets, Switzerland, June 30-July 5 2019
10. **Anand Odedra, Zuleima Pava, Rebecca Watts, Rebecca Pawliw, Katharine Collins, Maria Rebelo, Glen Kennedy, Kari Mudie, David Lalloo, James McCarthy.** Safety and feasibility of apheresis as a method of harvesting and concentrating parasites from the blood of subjects with Plasmodium vivax infection. 7<sup>th</sup> International Conference on Plasmodium vivax Research June 26-28, 2019 Institut Pasteur, Paris, France.



# INTERNAL MEDICINE RESEARCH UNIT

The Internal Medicine Research Unit supports investigator initiated collaborative research including clinical and health services studies intended to directly improve hospital and post-hospital patient outcomes. We have expertise in design and evaluation of complex interventions using multi-methods research, collaborating with a range of universities and health services. We provide support to trainees, research higher degree students and postdoctoral fellows from a range of health disciplines.

## Principles areas of research focus are:

- Frailty
- Hospital-associated complications of older people, particularly delirium and functional decline
- Heart failure
- Safe prescribing
- Multidisciplinary collaborative care models
- Knowledge translation and implementation science.

## Research highlights for 2019 include:

- Primary outcomes for the CHERISH cluster randomised controlled trial testing the Eat Walk Engage program in four Queensland hospitals were presented at:
  - ➔ American Geriatrics Society Annual Meeting in Portland, USA,
  - ➔ International Association of Geriatrics and Gerontology (European region) biannual meeting in Gothenburg, Sweden
  - ➔ Australian Association of Geriatrics and Gerontology annual meeting in Sydney.
- Awarded American Geriatrics Society Presidential Poster Award for best clinical trial (CHERISH trial)
- Implementing the successful Eat Walk Engage program in 12 new Queensland hospitals under Minister's Priority funding, providing rapid translation in practice
- Successful 2019-20 Medical Research Future Fund Rapid Translation Grant "Improving Delirium Care" in the rehabilitation unit of Redcliffe hospital
- Successful 2019-20 Flinders Medical Centre Hospital Foundation Grant "REDUCE" project, piloting Eat Walk Engage (A Mudge, P McRae co-investigators)
- Successful Irish Health Review Board grant piloting an 'Acute Frailty Bundle' modelled on Eat Walk Engage (A Mudge co-investigator)
- PhD awarded to Dr Julie Adsett
- PhD awarded to Dr Angela Byrnes
- Successful mid-candidature review for Ms Karen Lee-Steere
- Delivering a wide range of courses in Knowledge Translation through partnerships with MNHHS, QUT, Clinical Excellence Division, and others.

## 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>Julie Adsett</b>	PhD, Griffith (2012-2019) <i>conferred July 2019</i>	Exercise rehabilitation for patients with stable heart failure	Norman Morris, Suzanne Kuys, <b>Jennifer Paratz, Alison Mudge</b>
<b>Angela Byrnes</b>	PhD, UQ (2015-2019) <i>conferred February 2019</i>	Investigating the nutritional status and care of older (≥65 years) patients on two general surgical wards: A multiphase, action research study	Judy Bauer, <b>Adrienne Young, Alison Mudge, Merrilyn Banks</b>
<b>Karen Lee-Steere</b>	M Phil UQ (2017-2020) <i>Mid-candidature review completed 2019</i>	Improving the care of the older patient with or at risk of delirium in the acute care setting: patient and carer perspectives	Sally Bennett, Jacki Liddle, <b>Alison Mudge</b>
Aisling Fleury	PhD UQ (2019-2024)	Frailty and outcomes in surgical patients	<b>Alison Mudge</b> , Ruth Hubbard
<b>Brooke Myers</b>	PhD, UQ (2014-current)	Role of the Pharmacist on the Medical Post-Take Ward Round	<b>Ian Coombes</b> , Charles Mitchell, <b>Peter Donovan</b> , Jennifer Whitty

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/ external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Alison Mudge</b>	Professor Clinical Director	0.6	Fellowship and UQ funded	Hospital care of frail older people: implementing and evaluating systems to improve care and outcomes	University of Queensland
<b>Charles Denaro</b>	Associate Professor	0.1	In kind funded	Screening for Fabry Disease in Chronic Kidney Disease	University of Queensland
<b>Prue McRae</b>	Program manager	0.3	Grant funded	Eat Walk Engage and related projects	
<b>Karen Lee-Steere</b>	Program manager	0.3	Fellowship funded	Patient and family experience and involvement in delirium prevention	University of Queensland
<b>Samantha Olenski</b>	Research assistant	0.2	Grant funded	various	
<b>Elise Treleaven</b>	Research assistant	0.4	Grant and UQ funded	various	University of Queensland
<b>Angela Byrnes</b>	Data Manager	0.4	Grant funded	Eat Walk Engage state-wide	

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Adrienne Young</b>	<b>Angela Byrnes</b> , Evonne Miller ( <i>QUT</i> ), <b>Alison Mudge</b> , Gary Power ( <i>consumer</i> ), <b>Merrilyn Banks</b> , Mark Brough ( <i>QUT</i> ), <b>Amanda Dines</b> , Prue McRae ( <i>IMRU</i> ), Chiara Santomauro ( <i>CSDS</i> ), <b>Tara McCurdie</b> ( <i>QIPPS</i> )	Co-designing a positive meal environment for older people in hospital: a multi-phase experience-based co-design study
<b>Alison Mudge</b>	Elizabeth Beattie ( <i>QUT</i> ), Len Gray ( <i>UQ</i> ), Ruth Hubbard ( <i>UQ</i> ), Helen Edwards ( <i>QUT</i> ), <b>Prue McRae</b> , Cathy Yelland ( <i>Redcliffe Hospital</i> ), Amanda Fox ( <i>QUT</i> ), Sandra Jeavons ( <i>QUT</i> )	Reducing harm in older inpatients: an integrated program to meet the Australian Delirium Clinical Care Standards in hospitals
<b>Alison Mudge</b>	<b>Alison Mudge</b> , <b>Prue McRae</b> , <b>Samantha Olenski</b> , <b>Elise Treleaven</b> , <b>Margaret Cahill</b> , <b>Karen Lee-Steere</b>	Delirium Day: a hospital wide quality audit



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

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Alison Mudge</b>	<b>Merrilyn Banks</b> , Adrian Barnett ( <i>QUT</i> ), Irene Blackberry ( <i>Latrobe</i> ), Ann Chang ( <i>QUT</i> ), Nick Graves ( <i>QUT</i> ), Ruth Hubbard ( <i>UQ</i> ), Sharon Inouye ( <i>Harvard</i> ), Sue Kurrle ( <i>Uni of Sydney</i> ), Kwan Lim ( <i>Uni of Melbourne</i> ), <b>Prue McRae</b> , Nancye Peel ( <i>UQ</i> ), <b>Adrienne Young</b>	CHERISH Collaborative for Hospitalised Elders: Reducing the Impact of Stays in Hospital
<b>Julian de Looze</b>	<b>Julian de Looze</b> , <b>Joan Webster</b> , <b>Charles Denaro</b> , <b>Alison Mudge</b> , <b>John Gowardman</b> , <b>Robyn Fox</b> , <b>Catrina Booker</b> , <b>Peter Thomas</b> , <b>Samantha Olenski</b> , <b>Elise Treleaven</b> , <b>Melissa Eastgate</b> , <b>Tracy Glynn</b>	Patients of Concern: A qualitative exploratory study within the Royal Brisbane and Women's Hospital
<b>Alison Mudge</b>	<b>Julie Adsett</b> , <b>Alison Mudge</b> , Norm Morris ( <i>Griffith Uni</i> )	Frailty, exercise and outcomes in heart failure patients: substudy of EJECTION-HF
<b>Alison Mudge</b>	<b>Margaret Shaw</b> , Anita Pelecanos	Effect of pre-planned physician involvement in care of adult surgical patients on clinical and health service outcomes: a systematic review
<b>Samantha Olenski</b>	<b>Alison Mudge</b> , <b>Adrienne Young</b> , <b>Prue McRae</b> , <b>Elise Treleaven</b> , Kimberley Mallan ( <i>ACU</i> ), Zoe Walsh ( <i>COH</i> ), Jill Ross ( <i>COH</i> ), <b>Alanna Geary</b> ( <i>Nursing and Midwifery</i> )	Developing and validating a novel survey to identify barriers and enablers to improving nutrition care in acute and subacute inpatient settings
<b>Prue McRae</b>	<b>Alison Mudge</b> , Jesse Spurr, Kaye Rolls, <b>Elise Treleaven</b> , <b>Margaret Cahill</b> , <b>Karen Lee-Steere</b> , <b>Angela Byrnes</b>	Getting Eat Walk Engage to talk-is a virtual community of practice acceptable?
<b>Peter Donovan</b>	<b>Peter Donovan</b> , <b>Alison Mudge</b> , Jenny Martin ( <i>Uni Newcastle</i> ), Michael Barras ( <i>Princess Alexandra Hospital</i> ), <b>James Rowland</b>	Interventions to improve safety and quality in the management of anticoagulants for therapeutic indications in hospital inpatients: systematic review
<b>Peter Donovan</b>	Michael Barras, ( <i>Princess Alexandra Hospital</i> ), Ian Coombes, <b>Jason Roberts</b> , Ms Carla Scuderi ( <i>Pharmacy</i> ), Charles Denaro ( <i>Internal Medicine</i> ), John Atherton, Ms Bonnie Tai ( <i>Prince Charles Hospital</i> ), Ms Anita Pelecanos ( <i>QIMR Berghofer</i> )	Development of a therapeutic range for enoxaparin in patients with renal impairment
<b>Peter Donovan</b>	<b>Nicola Harper</b> , Dr Danielle Stowasser, Natasha Truloff ( <i>Metro North IT</i> ), Ian Coombes, ( <i>Pharmacy</i> ), <b>Charles Denaro</b> ( <i>Internal Medicine</i> ), Timothy Dunn ( <i>Caboolture Hospital Pharmacy</i> ), Anita Pelecanos ( <i>QIMR Berghofer</i> )	Evaluation of the Implementation of Electronic Prescribing using Interrupted Time-Series Analysis at Two Hospitals in Queensland

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Alison Kitson ( <i>Flinders University</i> )	<b>Alison Mudge</b> , <b>Prue McRae</b> , Sarah Hunter ( <i>Flinders</i> ), Rebecca Feo ( <i>Flinders</i> ), Tiffany Conroy ( <i>Flinders</i> ), Jo Nolan ( <i>Flinders Medical Centre</i> ), Michale Lawless ( <i>Flinders</i> )	REDUCE (tRanslating knowLEDge for fUndamental CarE): Reducing Delirium with the 'Eat Walk Engage' Program
Laurie Grealish ( <i>Griffith/GCUH</i> )	<b>Alison Mudge</b> , <b>Margaret Cahill</b> , Wendy Chaboyer ( <i>Griffith</i> ), Andrea Marshall ( <i>Griffith</i> )	Using Normalisation Process Theory to engage nurses in delirium care
Helen Edwards ( <i>QUT</i> )	<b>Alison Mudge</b> , <b>Kerrie Coleman</b> , Patricia Sinasac, Kathleen Finlayson, Fiona Coyer	Reducing the prevalence and severity of wounds through implementation of the Champions for Skin Integrity model: Protecting Skin Integrity
<b>Natasha Roberts</b> ( <i>Cancer Care Services</i> )	Monica Janda ( <i>QUT</i> ), <b>Alison Mudge</b> , <b>Kimberley Alexander</b> , <b>David Wyld</b>	i-PROMOS: Implementing Patients Reported Outcome Measures in Oncology Outpatients
<b>Dylan Flaws</b> ( <i>Mental Health</i> )	<b>Alison Mudge</b> , <b>Gerard Byrne</b> ( <i>Mental Health</i> ), <b>Prue McRae</b> , <b>Megan Nitz</b> ( <i>Mental Health</i> ), Conor O'Launaigh ( <i>TPCH</i> ), Trevor Hollingsworth ( <i>Caboolture</i> ), <b>Adrienne Young</b> , <b>Elise Treleaven</b>	Delirium in older psychiatry inpatients: protocol for an observational study
Dr Susan Jordan ( <i>University of Queensland</i> ), Prof Sallie-Anne Pearson ( <i>University of New South Wales</i> ), Dr Nirmala Pandeya ( <i>University of Queensland</i> ), Assoc Prof Michael Coory ( <i>Murdoch Children's Research Institute</i> ), Dr Katrina Spillsbury ( <i>Curtin University of Technology</i> )	<b>Peter Donovan</b>	IMPROVE – Investigating Medication Re-Purposing to Reduce risk of Ovarian cancer and Extend survival

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

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Louise Cullen</b> <i>(Emergency and Trauma Centre)</i>	<b>Nathan Brown, Peter Donovan, Ian Coombes, Jaimi Greenslade, David Hughes, Elizabeth Doran</b>	Prevalence and characteristics of medication-related presentations to the emergency department. Emergency and Trauma Centre, Royal Brisbane and Women's Hospital
<b>Phillip Robinson</b> <i>(Rheumatology)</i>	<b>Peter Donovan</b> , Nicola Dalbeth <i>(University of Auckland, Auckland Hospital)</i>	A Health Economic Analysis Colchicine Therapy for Gout Prophylaxis
<b>Ian Coombes</b> <i>(Pharmacy)</i>	<b>Peter Donovan</b> , Charles Mitchel <i>(UQ)</i> , Brooke Myers, Christy Noble, <i>(Gold Coast University Hospital, Griffith University)</i>	Improving Intern Medical Officer Prescribing through an Intervention of Self-Assessment and Feedback
<b>Don McLeod</b> <i>(Endocrinology)</i>	<b>Peter Donovan, Roger Allison</b> <i>(Cancer Care)</i> , <b>Susan Thomas</b> <i>(Cancer Care)</i> , <b>Lee Tripcony</b> <i>(Cancer Care)</i>	Validating a response to therapy risk stratification system for Medullary Thyroid Cancer
<b>Champika Pattullo</b> <i>(Clinical Pharmacology)</i>	<b>Benita Suckling, Peter Donovan</b> , Lisa Hall <i>(Queensland University of Technology)</i>	Development, implementation and outcomes of an adaptable OXYCODONE Quality Improvement STRATEGY: Steps towards opioid stewardship

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Alison Mudge</b>	American Geriatrics Society Presidential Poster Award best clinical trial	AGS Annual Scientific Meeting Portland USA
<b>Eat Walk Engage team</b>	Finalist	Queensland Health Excellence Awards

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Samantha Olenski, Alison Mudge, Adrienne Young, Prue McRae</b> , Kimberley Mallan	Internal Medicine Research Unit; RBWH Department of Nutrition and Dietetics	Developing and validating a nutrition care survey	RBWH Research Foundation	\$32,000	\$9,041	2018-2019
<b>Prue McRae, Alison Mudge</b> , Jesse Spurr, Kaye Rolls, <b>Elise Treleaven, Angela Byrnes</b>	Internal Medicine Research Unit	Getting Eat Walk Engage to talk-is a virtual community of practice acceptable?	RBWH Research Foundation	\$39,900	\$24,406	2018-2019
Helen Edwards, <b>Kerrie Coleman</b> , Patricia Sinasac, Kathleen Finlayson, <b>Fiona Coyer</b> , Jessica Schluter, Christina Parker, <b>Alison Mudge</b>	Internal Medicine Research Unit, Skin Integrity Service	Reducing the prevalence and severity of wounds through implementation of the Champions for Skin Integrity Model-Protecting Skin Integrity	Queensland Health Nursing and Midwifery Fellowships	\$119,385	\$39,795	2017-2019
<b>Karen Lee-Steere</b> , Sally Bennett., Jacki Liddle and <b>Alison Mudge</b>	Internal Medicine Research Unit; RBWH and UQ	Improving the care of the older patient with or at risk of delirium in the acute care setting: patient and carer perspectives	RBWH Research Foundation	\$110,000	\$36,863	2017-2019
Susan Jordan <i>(Queensland Institute of Medical Research Berghofer)</i> , Sallie-Anne Pearson <i>(University of New South Wales)</i> , Nirmala Pandeya <i>(University of Queensland)</i> , Michael Coory <i>(Murdoch Children's Research Institute)</i> , Katrina Spilsbury <i>(Curtin University of Technology)</i> , <b>Peter Donovan</b>	Clinical Pharmacology, Internal Medicine and Aged Care	IMPROVE – Investigating Medication Re-Purposing to Reduce risk of Ovarian cancer and Extend survival	National Health and Medical Research Council	\$438,313	\$95,104	2017-2021

## Research Grants *(cont)*

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Wendy Hoy, <b>Andrew Mallett</b> , <b>Helen Healy</b> , <b>Charles Denaro</b> , Mark Thomas, Vincent Lee	CKD.QLD, Centre for Chronic Disease UQ; Internal Medicine Research Unit	aCQuiRE: Assessing the prevalence of Fabry disease in CKD	Sanofi-Genzyme	\$946,554	\$236,638	2016-2019
<b>Penni Burfein</b>	Speech Pathology /GARU	Return to work for stroke survivors with aphasia	RBWH Foundation Postgraduate Scholarships	\$38,082.52	\$38,082.52	2019
<b>Adrienne Young</b> , <b>Angela Byrnes</b> , Evonne Miller ( <i>QUT</i> ), <b>Alison Mudge</b> , Gary Power ( <i>consumer</i> ), <b>Merrilyn Banks</b> , Mark Brough ( <i>QUT</i> ), <b>Amanda Dines</b> , <b>Prue McRae</b> ( <i>IMRU</i> ), Chiara Santomauro ( <i>CSDS</i> ), <b>Tara McCurdie</b> ( <i>QIPPS</i> )	Internal Medicine Research Unit; RBWH Department of Nutrition and Dietetics	Co-designing a positive meal environment for older people in hospital: a multi-phase experience-based co-design study	RBWH Research Foundation	\$35,459	\$35,459	2019

## 2019 Research Publications

### Journal Articles

- Mudge A, McRae P, Donovan P, Reade M.** A multidisciplinary quality improvement program for older patients admitted to a vascular surgery ward. *Internal Medicine Journal* epub ahead of print 10 June 2019
- Flaws D, Byrne G, Mudge A.** Delirium risk in non-surgical ward patients: a systematic review of predictive tools. *Archives of Gerontology and Geriatrics* epub ahead of print May 5 2019
- Maru S, **Mudge A**, Suna J, Scuffham PA. One-year cost-effectiveness of supervised center-based exercise training in addition to a post-discharge disease management for patients recently hospitalized with acute heart failure: The EJECTION-HF study. *Heart & Lung: the Journal of Acute and Critical Care* 2019; 48(5):414-420
- Byrnes A, Clarke D, Mudge A.** Implementation science approaches to enhance uptake of complex interventions in surgical settings. *Australian Health Review* published online early 15 April 2019
- Roberts N, Mudge A**, Alexander K, **Wyld D**, Janda M. The iPROMOs study protocol: a stepped wedge study to implement routine patient reported outcomes in a medical oncology outpatient setting. *BMJ Open* 2019;9(2): e027046
- Adsett J**, Morris N, Kuys S, **Paratz S, Mudge A.** Motivators and barriers for participation in aquatic and land-based exercise training programmes for people with stable heart failure: A mixed methods approach. *Heart & Lung* 2019; 48(4):287-93
- Adsett J, Mudge A**, Morris N. Predictors of exercise training and physical activity guideline adherence in patients with heart failure: a brief report. *Journal of Cardiopulmonary Rehabilitation and Prevention* 2019; 39 (3): E12-16
- Adsett J**, Morris NM, **Mudge A.** Impact of exercise training program attendance and physical activity participation on six minute walk distance in patients with heart failure. *Physiotherapy theory & practice* epub before print Sept 25 2019
- Hubbard R, **Mudge A.** Management of frail older people with acute illness. *Intern Med J* 2019; 49: 28-33 (invited commentary)
- Mudge A, McRae P**, Hubbard R et al. Hospital-associated complications of older people: a proposed multi-component outcome for acute care research. *J Am Geriatr Soc* 2019; 67 :352-356
- Byrnes A, Young A, Mudge A, Banks M**, Bauer J. Exploring practice gaps to improve perioperative nutrition care (EXPERIENCE study): a qualitative analysis of barriers to implementation of evidence-based practice guidelines. *Eur J Clin Nutr* 73 (1); 94
- Mudge A.** Outcomes for frail very old patients in the ICU are remarkable good. *MJA* 2019; 211(7): 314-5 (invited editorial)
- Frazer A, Rowland J, Mudge A, Barras M, Martin J, Donovan P.** Systematic review of interventions to improve safety and quality of anticoagulant prescribing for therapeutic indications for hospital inpatients. *Eur J Clin Pharm* 2019 epub before print Sept 11 2019
- Grealish L, Chaboyer W, **Mudge A**, Simpson T, **Cahill M**, Todd J et al. Using a general theory of implementation to plan the introduction of delirium prevention for older people in hospital. *J Nurs Management* 2019 epub ahead of print 24 August 2019
- Brooke Bullock, Ian Coombes**, Charles Mitchell, **Peter Donovan**, Jenny Whitty, A Systematic review of the costs and cost-effectiveness of clinical pharmacists on hospital ward rounds. *Expert Review of Pharmacoeconomics & Outcomes Research*, July 2019
- Madeline E Duke, Fiona L Britten**, Carel Pretorius, **Peter J Donovan.** Maternal Metyrapone Use During Breastfeeding: Safe for the Breastfed Infant. *Journal of the Endocrine Society*, March 2019
- Brooke Bullock, Peter Donovan**, Charles Mitchell, Jenny Whitty, **Ian Coombes.** The impact of a pharmacist on post-take ward round prescribing and medication appropriateness. *International Journal of Clinical Pharmacy*, Jan 2019
- Peter J Donovan**, David Arroyo, **Champika Pattullo**, Anthony J Bell. Trends in opioid prescribing in Australia: a systematic review. *Australian health review.* Epub ahead of print. DOI: 10.1071/AH18245.



## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **Mudge A, McRae P.** “Improving mobility levels of hospitalized people” invited multinational symposium (live streamed) World Congress of Physiotherapy Geneva May 2019
2. **Mudge A.** Re-engineering perioperative care pathways: a physician’s perspective. Invited speaker, Australia and New Zealand College of Anaesthetists (ANZCA) Perioperative Medicine Special Interest Group meeting Brisbane November 2019
3. **Mudge A.** Delirium: the brain and the older surgical patient. Invited speaker, Australia and New Zealand College of Anaesthetists (ANZCA) Perioperative Medicine Special Interest Group meeting Brisbane November 2019
4. **Mudge A.** Post-operative delirium. Invited speaker, Internal Medicine Society of Australia and New Zealand (IMSANZ) Annual Scientific Meeting Melbourne September 2019.

### Oral Presentations

1. **Mudge A, McRae P,** Barnett A, Inouye S for the CHERISH investigators: Reducing hospital-associated complications in older people: results from the CHERISH cluster randomised controlled trial International Association of Gerontology and Geriatrics Gothenburg May 2019
2. **Mudge A, McRae P,** Barnett A, Inouye S for the CHERISH investigators: Reducing hospital-associated complications in older people: results from the CHERISH cluster randomised controlled trial International Association of Gerontology and Geriatrics Gothenburg May 2019 American Geriatrics Society meeting Portland USA May 2019 (Lightning Science)
3. **Mudge A McRae P** Eat Walk Engage: an integrated program to improve mobility and outcomes in older inpatients. Selected speaker, Global Online Mobility Summit July 2019
4. **Mudge A, McRae P** Moving forward: patient and staff perspectives on limited mobility in a rehabilitation setting. Selected speaker, Global Online Mobility Summit July 2019
5. **Treleaven E, Olsenski S, Mudge A,** Hewitt M, Wheeler M, **McRae P, Young A.** Capturing the Patient Perspective: Barriers to Nutritional Intake in the Acute Setting. Dietitians Association Australia National Conference Gold Coast, August 2019
6. **Cahill M, Treleaven E, Mudge A, McRae P, Lee-Steere K,** Finnigan S. The Prevalence of Cognitive Impairment and its impact on care at the bedside. Australian College of Nursing Forum Hobart, August 2019
7. **Lee-steere K, Mudge A,** Bennett, S, Liddle, J. Understanding Older Patients’ Experiences and Perceptions of Non-Pharmacological Delirium Prevention Strategies in the Acute Care Environment. Occupational Therapy Australia Aged Care Symposium, Brisbane Convention and Exhibition Centre, South Bank, Brisbane, Queensland, February 2019
8. **Lee-steere K, Mudge A,** Bennett, S, Liddle, J. Understanding Older Patients’ Experiences and Perceptions of Non-Pharmacological Delirium Prevention Strategies in the Acute Care Environment. Occupational Therapy Australia National Conference, Sydney, NSW, July 2019
9. **McRae P, Mudge A, Banks M,** for the CHERISH investigators, reducing hospital associated complications in older people: Results from the CHERISH cluster randomised controlled study, 13<sup>th</sup> National Allied Health Conference Brisbane August 2019
10. **McRae P, Mudge A, Treleaven E, Lee-Steere K,** Cognitive Impairment in a tertiary hospital; prevalence and the carer experience; 13<sup>th</sup> National Allied Health Conference Brisbane August 2019
11. Nolan J, Hunter S, Kitson A, Feo R, Conroy T, **Mudge A, McRae P** REDUCE (tRanslating knowLEDge for fUndamental Care): Reducing Delirium with the 'Eat Walk Engage' Program, SA Gerontology Conference, Adelaide June 2019.

### Poster Presentations

1. **Mudge A, Young A, McRae P** et al “Older people aren’t my real patients”: a qualitative study of barriers and enablers to older person friendly hospitals. International Association of Gerontology and Geriatrics Gothenburg May 2019
2. **Cahill M, Treleaven E, Mudge A, McRae P, Lee-Steere K,** Finnigan S. Cognitive Impairment in a tertiary hospital; prevalence and carer experience. Australian College of Nursing Forum Hobart, August 2019.

### Details of staff that completed their PhDs in 2019 within your department / research group

Name	Name of Project	Completed Date	Affiliated University/ies
Angela Byrnes	Investigating the nutritional status and care of older (≥65 years) patients on two general surgical wards: A multiphase, action research study	Conferred February 2019	University of Queensland
Julie Adsett	Exercise rehabilitation for patients with stable heart failure	Conferred July 2019	Griffith University



## Other communications and outputs:

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**Alison Mudge and Prue McRae** were selected speakers for Global Online Mobility Summit: "Eat Walk Engage: an integrated program to improve mobility and outcomes in older inpatients" July 2019

**Alison Mudge and Prue McRae** were selected speakers for Global Online Mobility Summit: "Moving forward: patient and staff perspectives on limited mobility in a rehabilitation setting" July 2019

**Alison Mudge and Prue McRae** were invited members of an expert meeting on improving inpatient mobility at Utrecht UMC in the Netherlands as invited international experts May 2019

**Alison Mudge** co-authored the COPERATE report on assessing geriatric risks in older surgical patients, in a project funded by Statewide Network for Anaesthetics and Perioperative Medicine and Statewide Older Persons Health Clinical Network available at <https://clinicalexcellence.qld.gov.au/sites/default/files/2018-08/cooperate-project-final-report.pdf>

**Alison Mudge** was invited speaker at MNHHS Frailty Workshop: Frailty and its impact on hospitalized older people February 2019

**Alison Mudge, Prue McRae, Adrienne Young** led a full day workshop in implementation science training for QUT/MNHHS Graduate Certificate in Health Sciences (Health Services Innovation)

**Alison Mudge, Prue McRae, Adrienne Young** led two three day workshops in implementation science in collaboration with national partners MNHHS/AusHSI/Uni of Adelaide/Flinders University and Health Consumers Queensland (May 2019, November 2019)

**Alison Mudge, Prue McRae, Adrienne Young** have assisted with planning and delivery of a new online AH-TRIP (Allied Health Translating Research into Practice) course including development of webinar material accessible to clinicians throughout the state <https://www.health.qld.gov.au/clinical-practice/database-tools/translating-research-into-practice>

**Prue McRae** participated as an implementation expert on their Implementation Support Panel to support allied health clinicians to implement evidence into practice. Monthly videoconferences supported clinicians throughout the state for 6 months

**Alison Mudge** was an invited guest lecturer on implementation for the QUT Masters of Healthcare Management and the UQ Health and Biomedical Sciences Student Research Day

**Alison Mudge** was invited speaker at a statewide videoconference lecture for the state-wide Patient Safety and Quality Improvement Service: "Eat Walk Engage and the Comprehensive Care Standards" April 2019

**Alison Mudge** was invited speaker at the combined Statewide Older Person's Health Clinical Network/ Statewide General Medicine Network annual forum: "Caring for the frail older person in hospital: lessons from the CHERISH project" June 2019

**Alison Mudge** was invited speaker for the Directors of Clinical Governance Forum "reducing the confusion: what does good care for cognitive impairment look like?"

**Alison Mudge** was invited speaker for the Brisbane Diamantina Health Partners Ageing Theme Consumer Forum: "Older Person Friendly Hospitals" August 2019

**World Delirium Awareness Day:** The Eat Walk Engage team supported wards to demonstrate their delirium prevention and management strategies through displays, and led a staff and public information booth

everyBODYmoves Day 13<sup>th</sup> July: Prue Mcrae and Alison Mudge led EveryBODY moves day at RBWH to raise awareness of the importance of mobility (as part of Global Mobility Online Summit campaign)

**Margaret Cahill and Karen Lee-Steere.** Cognitive impairment in a tertiary hospital: prevalence and the carer experience. Oral presentation MNHHS Comprehensive Care Forum at Brighton Health Campus, 5<sup>th</sup> April 2019

**Karen Lee-Steere.** Delirium prevention in the acute hospital setting. Occupational Therapy Australia OTs working with older people special interest group presentation. April 30, 2019.

# KIDNEY HEALTH SERVICE

Highlights of the Kidney Health Service research year are the tremendous energy from our young researchers, in total 27 research higher degree students, driving the impressive list of publications and presentations reported here.

Our early career researchers are successfully navigating to independent research careers, attracting awards and prestigious funding. Associate Professor Andrew Mallett was awarded an inaugural early career MNHHS Clinical Research Fellowship and the University of Queensland Young Alumni of the year in 2019. Dr Andrew Kassianos is the driving force in the Conjoint Kidney Research Group which has successfully attracted continuous NHMRC grant funding since 2016, and Dr Martin Wolley is part of an international collaboration that has been awarded a prestigious Transatlantic Network Grant by the European Leducq Foundation.

Our international profile is also growing through collaborations like the latter and with researchers across the world, including the UK, Europe, India and Korea. The Visiting Academic program, with the 2019 Academics listed in this report, continues to be important opportunities to develop mutually productive research initiatives.

## 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>
Aihua Wu	PhD, UQ (2018-2021)	Regulation of sodium chloride cotransporter (NCC) in health and disease of salt homeostasis	Michael Stowasser, <b>Martin Wolley</b>
Amanda Mckie	MPhil, QUT (2018-2022)	Understanding nurses' perception of sexual dysfunction in people with end stage kidney disease requiring haemodialysis	<b>Ann Bonner, Theresa Green</b>
Arti Raghubar	PhD, UQ (Apr 2020-Dec 2022)	Gene expression mapping in the kidney	<b>Andrew Mallett, Helen Healy, Andrew Kassianos,</b> Quan Nguyen
Becker M.P. Law (Meng-Po LAW)	PhD, QUT (2015-2019) <i>conferred 2019</i>	Functional characterisation of lymphocyte subsets in human kidney disease	<b>Andrew Kassianos, Helen Healy,</b> Kenneth Beagley, Ray Wilkinson
<b>Bryan Gregory</b>	PhD, QUT (2016-2022)	The effects of continuous renal replacement therapy and sustained low-efficiency dialysis on immune-suppressive drug levels in critically ill patients with acute kidney injury	<b>Ann Bonner, Fiona Coyer</b>
<b>Carla Scuderi</b>	PhD, UQ (Oct 2017-Dec 2023)	Improving patient centred outcomes in kidney transplant recipients	Christine Staatz, <b>Helen Healy,</b> Andrew Mallett
<b>David McIntyre</b>	PhD, QUT (2016-2022)	The development and validation of haemodialysis nurse sensitive indicators	Ann Bonner, <b>Fiona Coyer</b>
Dominique McConnochie	PhD, UQ (2018-2022)	Phenotype-genotype correlations in cystic kidney disease	Jenny Stow, <b>Andrew Mallett,</b> Adam Wall
Evan Owens	PhD, UQ (2017 Dec 2020)	Clinical Biobanking and the distinguishing risk of progressive Chronic Kidney Disease study	Glenda Gobe, Wendy Hoy, David Vesey, <b>Helen Healy</b>
Harith Yapa	PhD, QUT (2017-2020)	Contributing factors to health-related quality of life in people with chronic kidney disease in Sri Lanka	<b>Ann Bonner, Louise Purtell,</b> Shirley Connell
<b>Haunnah Rheault</b>	DHlthSc, QUT (2016-2022)	Health literacy and chronic disease self-management in Indigenous Australians	<b>Ann Bonner, Fiona Coyer</b>
Jennifer Mathias-Shah	PhD, QUT (2019-2022)	Health literacy and chronic kidney disease	<b>Ann Bonner,</b> Joanne Ramsbotham
Kurt Giuliani	PhD, UQ (Apr 2019-Dec 2021)	The role of inflammasome signalling in human kidney fibrosis and chronic kidney disease	<b>Helen Healy, Andrew Kassianos,</b> Josephine Forbes, Jacobus Ungerer
Kushani Jayasinghe	PhD, Monash (2018-2022)	Clinical utility of targeted whole exome sequencing within a multidisciplinary renal genetics' clinic	Peter Kerr, Cathy Quinlan, Zornitza Stark, <b>Andrew Mallett</b>
Kylie Barr	PhD, UWS (Sydney) (Oct 2015-Nov 2019) <i>Submitted Nov 2019</i>	Intradialytic Yoga as a complex intervention for patients with end stage kidney disease receiving haemodialysis treatment: A mixed methods approach	Caroline Smith, Birinder Cheema, Freya MacMillan, <b>Helen Healy</b>



## Supervised Post-Graduate Research Students *(cont)*

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>
Lan Van Hoang	PhD, QUT (2016-2020)	Relationship between health care supports, social supports and patient outcomes among haemodialysis population in Vietnam	<b>Ann Bonner, Theresa Green</b>
Marina Cousins	PhD, CQU (2018-2024)	Interpersonal relationships with people receiving haemodialysis	Julie Bradshaw, <b>Ann Bonner</b>
<b>Marina Wainstein</b>	PhD, UQ (Apr 2019-Dec 2021)	Extending the national CKD surveillance model	Wendy Hoy, Sally Shrapnel, Ivor Kratz, <b>Helen Healy</b>
<b>Molly Milazi</b>	DHlthSc, QUT (2014-2020)	Nurse-led teach back intervention to improve people with End Stage Kidney Disease adherence with phosphate control	<b>Ann Bonner, Clint Douglas</b>
Muhammad Ali Khan	PhD, UQ (2017 Dec 2021)	Treating Chronic Kidney Disease using plant extracts of bush pumpkin	Glenda Gobe, <b>Andrew Kassianos, Wendy Hoy, Helen Healy</b>
Nyakuoy Yak	MPhil, UQ (2019-2020)	Cell surface interactions within microenvironments	Jenny Stow, Andrew Mallett
<b>Pauline Nicholas</b>	Masters, QUT (2016-2019)	Measuring the prevalence of MCI in ESKD	<b>Ann Bonner</b> , Louise Purtell, Theresa Green
Senanayake Sameera	PhD, QUT (2018-2020)	Prediction of graft survival and cost effectiveness of kidney transplantation according to donor quality levels in Australia	Sanjeewa Kularatna, Nicholas Graves, <b>Helen Healy, Keshwar Baboolal</b>
<b>Sita Sharma</b>	PhD, QUT (2019-2022)	Symptom intervention to improve HRQoL in people receiving haemodialysis	<b>Ann Bonner, Theresa Green</b>
Sri Krishna Venuthurupalli	PhD, UQ (2010-2019) <i>conferred 2019</i>	CKD.QLD: profile of chronic kidney disease (CKD) from Darling Downs Health and Hospital Service (DDHHS)	Wendy Hoy, <b>Helen Healy</b> , Robert Fassett
Tain Lloyd	MAppSc, QUT (2017-2020)	Investigation of chronic kidney disease and stroke	<b>Ann Bonner, Theresa Green, Louise Purtell</b>
Zaw Thet	Masters, Griffith School of Medicine (2019-2020)	Cancer Risks along the disease trajectory in ANCA Vasculitis	Alfred K Lam, <b>Dwarakanathan Ranganathan</b> , Soe Yu Aung, Tien K Khoo,
Zeng Guo	PhD, UQ 2017-2020	Histopathological, biochemical and genetic characterization of different types of primary aldosteronism, including validation of a new angiotensin assay	Michael Stowasser, <b>Martin Wolley</b>

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Andrew Mallett</b>	MNHHS Clinical Research Fellow	0.4	Metro North Hospital and Health Service (MNHHS)	Genetic Kidney Disease	University of Queensland
<b>Martin Wolley</b>	Senior Research Fellow	0.2	Leducq Foundation Transatlantic Network Grant	Potassium in Hypertension	University of Queensland

## Honorary Positions: e.g. Non-RBWH staff with research appointments at RBWH

Name	Position	FTE	Research Program	Affiliated University/ies
Arti Raghubar	Honorary Researcher	1.0	Investigating underlying molecular processes in IgA nephropathy cases using SWATH-MS	University of Queensland/Pathology Queensland
Kurt Giuliani	Honorary Researcher	1.0	Targeting mitochondrial-driven inflammasome activation in human chronic kidney disease (CKD)	University of Queensland/Pathology Queensland
Seokchan Hong	Honorary Research Fellow	1.0	Proximal tubular epithelial cell-immune cell interactions in lupus nephritis	Asan Medical Centre, Korea

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
aCQuiRE Collaborative, <b>Helen Healy, Andrew Mallett</b>	<b>Charles Denaro</b> , Wendy Hoy (UQ), Samantha Stark, Vincent Lee ( <i>Westmead Hospital</i> ) Mark Thomas ( <i>Sir Charles Gardner Hospital</i> )	aCQuiRE a CKD Queensland FabRy disease Epidemiological point prevalence study in people managed in specialist nephrology practices
<b>Andrew Mallett</b>	Australian Genomics and KidGen Collaboration >50 collaborators; full list at <a href="http://www.kidgen.org.au">www.kidgen.org.au</a>	KidGen Renal Genetics Flagship
<b>Andrew Mallett</b>	Australian Genomics and KidGen Collaboration >50 collaborators; full list at <a href="http://www.kidgen.org.au">www.kidgen.org.au</a>	KidGen HIDDEN Flagship
CKD.Qld Collaborative, <b>Helen Healy</b>	Wendy Hoy (UQ), <b>Ann Bonner</b> (QUT), J Zhang (UQ), Z Wang (UQ), Vishal Diwan (UQ)	collaborative of clinicians in the public kidney practices in Queensland and academics poses of studying the natural history of chronic kidney disease, practice patterns across the state and biobanking of biosamples with linked phenotypes
Conjoint Kidney Research Group – <b>Helen Healy</b>	<b>Andrew Kassianos</b> (QPath), <b>George John</b> , <b>Andrew Mallett</b> , <b>Pedro Gois</b> , <b>Katrina Kildey</b> , Xiangju Wang (QPath), Kurt Giuliani (QPath), Becker Law (QUT), Arti Raghobar (QPath), Muhammad Ali Khan (UQ), Suceena Alexandra ( <i>Christian Medical College, Vellore India</i> ), Santosh Varughese ( <i>Christian Medical College, Vellore India</i> )	Mechanisms of Progression of Chronic Kidney Disease. Identifying biologically relevant control and switch points driving progression of kidney disease
Conjoint Kidney Research Group – <b>Helen Healy</b>	<b>Andrew Kassianos</b> , <b>Katrina Kildey</b> , <b>George John</b> , Ross Francis (PAH), Sebastian Hultin (PAH), Santosh Varughese ( <i>Christian Medical College, Vellore India</i> ), Suceena Alexandra ( <i>Christian Medical College, Vellore India</i> )	Mechanisms of Rejection of Kidney Allografts
Health Services Implementation Group, <b>Helen Healy</b>	<b>Pedro Gois</b> , <b>Gary Chang</b> , <b>Alexandra Cation</b> ; <b>Ann Bonner</b> (QUT), Louise Purtell (QUT), <b>Adrian Kark</b>	Keeping Kidneys in the Community
Kidney Transplantation Research Group, <b>Helen Healy</b> , <b>Andrew Mallett</b>	<b>Carla Scuderi</b> , <b>George John</b> , Christine Staatz (UQ)	Patient-centred outcomes in kidney transplantation
Peritoneal Dialysis Research Group, <b>Lesley Williams</b> , <b>Nicola Williams</b>	<b>Pauline Nicholas</b> , <b>Deborah Smith</b> , <b>Martin Wolley</b> , <b>Dwarakanathan Ranganathan</b> , <b>Michelle Rice</b>	Efficacy and feasibility study comparing topical use of acetic acid at the exit site versus Mupirocin to prevent exit site infections in PD patients (ACES)
Machine Learning Group	<b>Helen Healy</b> , <b>Marina Wainstein</b> , Wendy Hoy (UQ), Sally Shrapnel (UQ), Ivor Kratz ( <i>St George Hospital</i> ), <b>Robert Webb</b>	What the big datasets tell us about the natural history of CKD
<b>Martin Wolley</b>		Incremental start-up of Haemodialysis
Queensland Renal Biopsy Registry, <b>Dwarakanathan Ranganathan</b>	Wendy Hoy, Leo Francis, <b>Andrew Mallett</b> , <b>George John</b>	
OMICS in kidney disease, <b>Helen Healy</b> , <b>Andrew Mallett</b>	<b>Andrew Kassianos</b> , <b>Monica Ng</b> , Arti Raghobar, Quan Nguyen, Leo Francis, Anne Stewart	Finger printing kidney disease

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
A/Prof Alberta Hoi ( <i>Monash University</i> )	<b>Dwarakanathan Ranganathan</b>	SPOCS and Auslupus Registry
A/Prof Alberta Hoi ( <i>Monash University</i> )	<b>Dwarakanathan Ranganathan</b>	aHUS registry
A/Prof Caroline Smith ( <i>University of Western Sydney</i> )	<b>Helen Healy</b> , Birinder Cheema (UWS), Freya MacMillan ( <i>Flinders University</i> ), Kylie Barr (UWS)	Utility of complementary interventions in ESKD patients on haemodialysis
A/Prof Glenda Gobe (UQ)	<b>Helen Healy</b> , <b>Andrew Kassianos</b> , Wendy Hoy (UQ), David Vesey (UQ), Muhammed Ali Kha (UQ)	Treating chronic kidney disease with plant extracts with anti-oxidant properties (plant extracts of elephant foot yam)
Sanjeeva Kularatna (QUT)	<b>Helen Healy</b> , <b>Keshwar Baboolol</b> , Senanayake Sameera (QUT), Nicholas Graves ( <i>Singapore University</i> )	Applying Machine Learning to kidney organ allocation

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

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Santosh Varughese <i>(Christian Medical College, Vellore, India)</i>	<b>Helen Healy, George John, Andrew Kassianos</b>	Molecular profiling in renal allograft recipients with acute rejection and chronic allograft dysfunction
Smyth B, Kotwal S, Gallagher M, Gray NA, Polkinghorne K	<b>Sharad Ratanjee, David McIntyre</b>	REDUCCION Partnership Program
Suceena Alexander <i>(Christian Medical College, Vellore, India)</i>	<b>Helen Healy, George John, Andrew Kassianos</b>	Pathogenic molecular/cellular responses leading to chronic kidney disease in primary Focal and Segmental Glomerulosclerosis (FSGS) in Indians
Wendy Hoy <i>(UQ)</i>	<b>Helen Healy, Ann Bonner</b> <i>(QUT)</i> , Luke Connelly <i>(UQ)</i> , Zoltan Endre <i>(UNSW)</i> , Jeff Coombes <i>(UQ)</i> , Glenda Gobe <i>(UQ)</i>	NHMRC Chronic Kidney Disease Centre of Research Excellence

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Andrew Mallett</b>	Rising Star Award	2019 Metro North Hospital and Health Service Research Excellence Awards
<b>Andrew Mallett</b>	Distinguished Young Alumnus Award	2019 UQ Alumni Awards
Arti Raghubar	Australian Government Research Training Program (RTP) Scholarship	PhD studies – commenced 2019
Kurt Giuliani	Australian Government Research Training Program (RTP) Scholarship	PhD studies – commenced 2019
Molly Milazi	2019 RBWH Postgraduate Scholarship – renewal	DHlthSc studies continuing full-time

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Andrew Kassianos, Helen Healy, Kenneth Beagley</b>	Conjoint Kidney Research Group, Kidney Health Service	Developing therapeutic approaches targeting human unconventional T lymphocytes for the treatment of chronic kidney disease	National Health and Medical Research Council (NHMRC)	\$557,127	\$185,709	2019-2021
<b>Andrew Kassianos, Helen Healy, Ray Wilkinson, Leo Francis, Ross Francis</b>	Conjoint Kidney Research Group, Kidney Health Service	Pathogenic dendritic cells in human kidney disease	National Health and Medical Research Council (NHMRC)	\$370,983	\$125,000	2016-2019
<b>Andrew Mallett</b>	KidGen	The HIDDEN (wHole genome Investigation to iDentify undetected Nephropathies) Project	AGHA Rare Disease Flagship	\$240,000	\$120,000	2018-2020
<b>Andrew Mallett</b>	KidGen	Evaluation of clinical genomics and a MDT clinic model in inherited kidney disease	AGHA Rare Disease Flagship	\$204,223.50	\$408,447	2016-2019
<b>Andrew Mallett, Helen Healy, Charles Denaro, Wendy Hoy, Mark Thomas</b>	CKD.Qld	aCQuiRE: Epidemiology of Fabry's disease in Queensland CKD patients stage 1-5D	Sanofi-Genzyme International	\$315,518	\$946,554	2016-2019
<b>Ann Bonner, Louise Purtell</b>	Kidney Health Service	An evaluation of the General Practitioner with Special Interest (GPwSI) in specialist outpatient clinics	Metro North Hospital and Health Service	\$99,997	\$99,997	2019

## Research Grants *(cont)*

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Arti Raghubar, <b>Andrew Mallett</b> , <b>Helen Healy</b> , <b>Andrew Kassianos</b> , Quan Nguyen, Leo Francis, Anne Stewart	-OMICS in kidney disease	Optimisation of novel spatial transcriptomics in clinical kidney tissue to identify the transcriptome signature during kidney injury	Pathology Queensland – Study, Education and Research Committee	\$50,000	\$5,000	2019-2021
Arti Raghubar, <b>Andrew Mallett</b> , <b>Helen Healy</b> , <b>Andrew Kassianos</b> , Quan Nguyen, Leo Francis, Anne Stewart	Conjoint Kidney Research Group, Kidney Health Service	Optimisation of novel spatial transcriptomics in clinical kidney tissue to identify the transcriptome signature during kidney injury	Pathology Queensland – Study, Education and Research Committee	\$50,000	\$50,000	2019
<b>Dwarakanathan Ranganathan</b> , Sudha Ekambaram, Peter Trnka	International Society of Nephrology	The International Society of Nephrology (ISN) Sister Centres Program nurtures a partnership between centres from low income countries and organisations from higher income countries to enhance practice of nephrology at the EC	ISN Asia Pacific Society of Nephrology	\$24,000 USD	\$12,000 USD – \$A16,405.35	2018–2019
<b>Helen Healy</b> , <b>Alexandra Cation</b> , <b>Adrian Kark</b> , <b>Gary Chang</b> , <b>Vinood Lal</b> , <b>Carla Scuderi</b> , J Hairs, Amanda Queen, Peter Boffey, <b>Ann Bonner</b> , Louise Purtell	Health Services Implementation Group	KiCK CKD: Keeping Kidneys Integrated Care for Chronic Kidney Disease	Metro North Hospital and Health Service-LINK	\$359,000	\$180,000	2019-2020
Louise Purtell, Ann Bonner, <b>Helen Healy</b> , <b>Carol Douglas</b> , <b>Ilse Berquier</b> , Wendy Hoy	Health Services Implementation Group, Kidney Health Service	The REPOSE study (Randomised Evaluation of the Provision of a Sleep intervention in End-stage kidney disease)	Kidney Health Australia	\$50,000	\$50,000	2019-2020
Melissa Little, Ian Smyth, Cas Simons, <b>Andrew Mallett</b> , Steven Alexander, Ernst Wovetang, wA Oshlack, Chirag Patel, <b>Helen Healy</b> , Bruce Bennetts, Michel Tchan, Cathy Quinlan, Amanda Walker, S White, Z Stark.	KidGen	Applying functional genomics to Kidney Disease	National Health and Medical Research Council (NHMRC) APP1098654	\$409,772	\$1,229,316	2016-2019
<b>Molly Milazi</b> , <b>Clint Douglas</b> , <b>Ann Bonner</b>	Kidney Health Service	A novel bundled intervention (4Ds) to improve adherence with phosphate control in people receiving haemodialysis for end stage kidney disease	Royal Brisbane and Women's Hospital Scholarship	\$38,082	\$38,082	2019
<b>Pedro Gois</b> , <b>Dwaraka Ranganathan</b> , <b>Sharad Ratanjee</b> , <b>Helen Healy</b>	Investigator initiated	Haemodialysis without systemic anticoagulation: a prospective randomized trial to evaluate five strategies in patients at high risk of bleeding Royal Brisbane and Women's Hospital and RBWH Foundation	Royal Brisbane and Women's Hospital and Royal Brisbane and Women's Hospital Foundation	\$40,000	\$40,000	2019
Wendy Hoy, <b>Helen Healy</b> , Luke Connolly, Geoff Mitchell, Katie Panaretto, Zoltan Endre, Jeff Coombes, Glenda Gobe, <b>Ann Bonner</b> , Rob Fassett	Kidney Health Service	Chronic Kidney Disease Centre of Research Excellence	National Health and Medical Research Council (NHMRC)	\$2,496,981	\$500,000	2014-2019



## 2019 Research Publications

### Journal Articles

1. Bhagat Singh AK, Jeyaruban AS, Wilson GJ, **Ranganathan D**. Adalimumab-induced IgA nephropathy. *BMJ Case Rep*. 2019 Mar 31;12(3). pii: e226442. doi: 10.1136/bcr-2018-226442
2. **Bonner A**, Havas K, Tam V, Stone C, Abel J, Barnes M & **Douglas C**. An integrated chronic disease nurse practitioner clinic: Service model description and patient profile. *Collegian*. (2019). 26, 227-234. DOI: 10.1016/j.colegn.2018.07.009
3. **Bonner A**, Havas K, Stone C, Abel J, Barnes M, Mills K, Tam V & **Douglas C**. An integrated chronic comorbid disease clinic: Outcomes of nurse practitioner lead service model. *Collegian*. (2019, in press)
4. Brown L, Gardner G., **Bonner A**. A randomized controlled trial testing a decision support intervention for older patients with advanced kidney disease. *Journal of Advanced Nursing*. (2019 early online). 75, 3032-3044. DOI: 10.1111/jan.14112
5. Chan S, Marshall MR, Ellis RJ, **Ranganathan D**, Hawley CM, Johnson DW, **Wolley MJ**. Haemodialysis withdrawal in Australia and New Zealand: a binational registry study. *Nephrol Dial Transplant*. 2019 Aug 9. pii: gfz160. doi: 10.1093/ndt/gfz160. [Epub ahead of print] PubMed PMID: 3139748
6. Chan S, Patel C, **Mallett AJ**. A pilot clinical and validation study of the PROPKD score in clinical practice amongst patients with Autosomal Dominant Polycystic Kidney Disease. *Nephrology*, 2019 (published online 22 Aug 2019)
7. Chan S, Spraggon ES, Francis L, **Wolley MJ**. Bile Cast Nephropathy in a Patient With Obstructive Jaundice. *Kidney Int Rep*. 2018 Sep 18;4(2):338-340. doi: 10.1016/j.ekir.2018.09.008. eCollection 2019 Feb. PubMed PMID: 30775631
8. Davis J, Tjipto A, Hegerty K, **Mallett A**. An audit of electron microscopy in the diagnosis of focal segmental glomerulosclerosis – are current pathological techniques missing important abnormalities in the glomerular basement membrane? *F1000 Research*, Jul 2019, 8:1204
9. De Rechter S, Bockenauer D, Guay-Woodford LM, Liu I, **Mallett AJ**, Soliman NA, Sylvestre LC, Schaefer F, Liebau MC, Mekhali D, ADPedKD: A Global Online Platform on the management of Children with Autosomal Dominant Polycystic Kidney Disease for the ADPedKD Consortium. *Kidney Int Reports*. 2019, 4:1271-1284
10. Dinh TTH, **Bonner A**, Ramsbotham J., Clark R. A cluster randomized controlled trial testing effectiveness of a self-management intervention using the teach-back method for people with heart failure in Vietnam. *Nursing and Health Sciences*. (2019 early online). DOI: 10.1111/nhs.12616
11. El-Damanawi R, Viecelli AK, Pascoe EM, Craig JC, Johnson DW, **Mallett AJ**, Hawley CM, Hiemstra TF. Metformin for preventing the progression of chronic kidney disease (Protocol) *Cochrane Database of Systematic Reviews*, 2019, 9:CD013414
12. Ferreira D, de Bragança AC, Volpini RA, Shimizu MHM, **Gois PHF**, Girardi ACC, Seguro AC, Canale D. Vitamin D deficiency is a potential risk factor for lipid Amphotericin B nephrotoxicity. *PLoS Negl Trop Dis*. 2019 Jul 11;13(7): e0007567
13. Giuliani KTK, **Kassianos AJ**, Healy H, **Gois PHF**. Pigment Nephropathy: Novel Insights into Inflammasome-Mediated Pathogenesis. *International Journal of Molecular Sciences* 2019 Apr 23;20(8). E1997
14. **Green T**, **Bonner A**, Teleni L, Bradford N, **Purtell L**, **Douglas C**, Yates P, MacAndrew M, Dao HY & Chan RJ. Use and reporting of experience-based co-design studies in the healthcare setting: A systematic review. *BMJ Quality & Safety*. (2019). Epub ahead of print. 1-13. DOI: 10.1136/bmjqs-2019-009570
15. Haas M, Boughtwood T, Quinn M, AGHA Flagships Leads. The ethics approval process for multisite research studies in Australia: changes sought by the Australian Genomics initiative. *MJA*, 2019, 211(10:440-446
16. Hoang VL, **Green T**, **Bonner A**. Informal caregivers of people undergoing haemodialysis: Associations between activities and burden. *Journal of Renal Care*. (2019). 45(3), 151-158. DOI:10.1111/jorc.12280
17. Hudson R, Patel C, Hawley C, O'Shea S, Snelling P, Ho G, Holman K, Bennetts B, Crawford J, Francis L, Simons C, **Mallett A**. Adult-diagnosed non-syndromic nephronophthisis in Australian families causes by biallelic NPHP4 variants. *AJKD* (accepted 31 August 2019)
18. Jayasinghe K, White SM, Kerr PG, MacGregor D, Stark Z, Wilkins E, Simons C, **Mallett A\***, Quinlan C. Isolated proteinuria due to CUBN homozygous mutation – challenging the investigative paradigm. *BMC Nephrology*, 2019, 20:330
19. Jayasinghe K, Stark Z, Patel C, Mallawaarachchi A, McCarthy H, Faul R, Chakera A, Sundaram M, Jose M, Kerr P, Wu Y, Wardrop L, Goranitis I, Best S, Martyn M, Quinlan C, **Mallett A**. A study protocol for comprehensive evaluation of clinical genomic testing in patients with suspected genetic kidney disease. *BMJ Open*, 2019, 9: e029541
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21. Kumuthini J, Van Woerden C, **Mallett A**, Zass L, Chaouch M, Thompson M, Johnston K, Mbiyavanga M, Baichoo S, Mungloo-Dilmohamud Z, Patel C, Mulder N. Proposed minimum information guideline for kidney disease: research and clinical data reporting – A Cross Sectional Study. *BMJ Open*, 2019, 9: e029539
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27. **McIntyre D, Coyer F, Bonner A**. Identifying nurse sensitive indicators specific to haemodialysis nursing: A Delphi approach. *Collegian*. (2019, in press). DOI: 10.1016/j.colegn.2019.06.003
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51. Zhang J, **Healy H, Baboolal K**, Wang Z, Venuthurupalli SK, Tan S-T, **Cameron A**, Hoy WE on behalf of the CKD.QLD Collaborative. Frequency and consequences of acute kidney injury in patients with CKD: A Registry study in Queensland Australia. *Kidney Medicine* 2019 1(4);180-190

## Journal Articles (cont)

52. Zhang J, **Healy HG**, Venthurupalli SK, Tan K-S, Wang Z, **Cameron A**, Hoy WE. Blood pressure management in hypertensive patients with non-dialysis chronic kidney disease in Queensland, Australia. *BMC Nephrology* 2019; 20:348
53. Zhang W, Mei C, Chen N, Ding X, Ni Z, Hao C, Zhang J, Zhang J, Wang N, Jiang G, Guo Z, Yu C, Deng Y, Li H, Yao Q, Marshall MR, **Wolley MJ**, Qian J. Outcomes and practice patterns with hemodiafiltration in Shanghai: a longitudinal cohort study. *BMC Nephrol.* 2019 Feb 1;20(1):34. doi: 10.1186/s12882-019-1219-z. PubMed PMID: 30709342.

## Book Chapters / Letters

1. **Bonner A.** & Ramanathan V. (2019). Adaptation of nursing management: Male reproductive problems. In D. Brown, H. Edwards, L. Seaton, & T. Buckley (Eds), *Lewis's Medical-Surgical Nursing* (5<sup>th</sup> ed.), (pp XX-YY). Sydney: Elsevier. ISBN: 9780729543095
2. **Bonner A.** (2019). Adaptation of nursing assessment: Urinary system. In D. Brown, H. Edwards, L. Seaton, & T. Buckley (Eds), *Lewis's Medical-Surgical Nursing* (5<sup>th</sup> ed.), (pp XX-YY). Sydney: Elsevier. ISBN: 9780729543095
3. **Bonner A.** (2019). Adaptation of nursing management: Acute kidney injury and chronic kidney disease. In D. Brown, H. Edwards, L. Seaton, & T. Buckley (Eds), *Lewis's Medical-Surgical Nursing* (5<sup>th</sup> ed.), (pp XX-YY). Sydney: Elsevier. ISBN: 9780729543095
4. **Bonner A.** (2019). Adaptation of nursing management: Renal and urologic problems. In D. Brown, H. Edwards, L. Seaton, & T. Buckley (Eds), *Lewis's Medical-Surgical Nursing* (5<sup>th</sup> ed.), (pp XX-YY). Sydney: Elsevier. ISBN: 9780729543095
5. **Bonner A.** (2019). Renal and genitourinary trauma. In K. Curtis, C. Ramsden, R. Z. Shaban, M. Fry, & M. Considine (Eds), *Emergency and Trauma Care for Nurses and Paramedics* (3<sup>rd</sup> ed.), (pp. 669-693). Sydney: Elsevier. ISBN: 9780729587198.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **Bonner A.** Chronic kidney disease research program: From primary care to supportive care. Invited presentation at the Nanjing Medical University Research Symposium, 2019, Nanjing, China
2. **Kassianos A.** Molecular interrogation of the allograft: bench to bedside. CMC Vellore Renal Winter Symposium, 2019. Vellore, India
3. **Kassianos A.** Proximal tubular epithelial cell immuno-biology. CMC Vellore Renal Winter Symposium, 2019. Vellore, India
4. **Mallett A.** Autosomal Dominant Tubulointerstitial Kidney Disease, World Congress of Nephrology, 2019
5. **Mallett A.** Doing Better, TEDx talk, Macquarie University, 2019, New South Wales, Australia
6. **Mallett A.** Genetics Kidney Disease, an unmet need, UQ EoM Research Symposium, University of Queensland, 2019, Brisbane, Australia
7. **Mallett A.** Kidney Clinical Genomics in Queensland. A Model in Australia, Logan Research Symposium, 2019, Logan Hospital, Queensland, Australia
8. **Mallett A.** Mobilising Nation-Wide Multidisciplinary Renal genetics clinics, IMB research day, 2019, University of Queensland, Queensland, Australia
9. **Mallett A.** Mobilising Nation-Wide Multidisciplinary Renal genetics clinics, Australian Genomics Conference, 2019, Melbourne, Australia
10. **Mallett A.** Transforming Kidney Health: Challenges, progress, opportunities, Australia and New Zealand Transplant Nurses Association Conference, 2019
11. **Ranganathan D:** Nephkids 2019. July 2019, Chennai, India
12. **Wolley M,** Aldosterone, Potassium and NCC. Asia Pacific Congress of Hypertension, November 2019, Brisbane, Australia
13. **Wolley M,** Approach to the patient with an incidentaloma. 9<sup>th</sup> Emirates Diabetes and Endocrine Congress, March 2019. Dubai, UAE
14. **Wolley M,** Drug resistant hypertension, 9<sup>th</sup> Emirates Diabetes and Endocrine Congress, March 2019, Dubai, UAE
15. **Wolley M,** Hyperaldosteronism: Challenges in diagnosis and Treatment. 9<sup>th</sup> Emirates Diabetes and Endocrine Congress, March 2019, Dubai, UAE
16. **Wolley M,** Incremental haemodialysis trial. BEAT-CKD, August 2019, Sydney, Australia
17. **Wolley M,** Potassium and blood pressure. Pressure-wise community event, November 2019, Brisbane, Australia.

### Oral Presentations

1. **Bonner A, Berquier I, Healy H,** Purtell L. Kidney supportive care: Evaluation of treatment decision-making and advance care plans. In: Abstract Book page 109. Oral presented at: 48<sup>th</sup> EDTNA/ERCA International Conference, 2019 Sept 14-17, Prague, Czech Republic (O 87)
2. **Bonner A, Kirby J,** Purtell L, **Berquier I, Healy H.** Younger people are also accessing kidney supportive care. In: Abstract Book page 64. Oral presented at: 48<sup>th</sup> EDTNA/ERCA International Conference, 2019 Sept 14-17, Prague, Czech Republic (O 43)
3. **Bonner A,** Purtell L, **Berquier I, Healy H.** In: Abstract Book page 29. Oral presented at: 48<sup>th</sup> EDTNA/ERCA International Conference, 2019 Sept 14-17, Prague, Czech Republic (SO 10)
4. **Bonner, A.,** Purtell, L., **Berquier, I., Healy, H.** Evaluating patient and carer perspectives of a kidney supportive care program. EDTNA/ERCA International Conference, 2019. Czech Republic



## Oral Presentations (cont)

5. **Chang G, Bonner A, Healy HG.** Keeping Kidneys General Practitioner with Special Interest (GPwSI) Project: a new model of care for community kidney health. Oral presentation at: Royal Australian College of General Practitioners Annual Conference (GP19); 2019 Oct 24-26, Adelaide, Australia
6. Eranga Yapa H, Chambers S, **Purtell L, Bonner A.** Comparing symptom burden across different stages of chronic kidney disease. Renal Society of Australasia, 2019. New Zealand
7. Eranga Yapa, H, Chambers, S, **Purtell, L, Bonner, A.** Comparing health-related quality of life across different stages of chronic kidney disease. Renal Society of Australasia, 2019. New Zealand
8. Guo Z, Cowley D, Poglitsch M, McWhinney BC, Ungerer JPJ, **Wolley M,** Stowasser M. The effect of ramipril on the aldosterone/renin ratio and aldosterone/angiotensin II ratio in patients with primary aldosteronism: A pilot study. The 29<sup>th</sup> European Meeting on Hypertension and Cardiovascular Protection. 21-24 June 2019, Milan, Italy. (Parallel Oral Session 3B, Endocrine Hypertension, ESH19-ABS-3840-258-94807)
9. **Hale J, Jahan, S, Coleman S, Kark A, Mallett A.** Does the kidney failure risk equation (KFRE) accurately predict progression from chronic to end stage kidney disease in an Australian metropolitan population – a retrospective clinical audit. Renal Society of Australasia, 2019. Auckland, New Zealand
10. **Hart L, Garry L, Coleman S, Beaumont N, O'Donohue R, Mason B, Millhouse S, Hale J, Kark A.** 'Welcome group': A multidisciplinary interactive group session designed to introduce patient to chronic kidney disease (CKD) management. Renal Society of Australasia, 2019. New Zealand
11. **Hart L.** "Welcome Group": A multidisciplinary interactive group session designed to introduce patients to Chronic Kidney Disease (CKD) management. Renal Society of Australasia Conference 2019. Auckland
12. Hoang V, **Bonner A, Green T.** Are informal carers of family members who receive haemodialysis burdened by their caring activities? Renal Society of Australasia, 2019. New Zealand
13. Hoang, V, **Bonner A, Green T.** Living with haemodialysis: Patients' social support and quality of life and their family carers' level of burden. Renal Society of Australasia, 2019. New Zealand
14. **Holman S, Terry M, Healy HG.** Fluid assessment is hard in the obese – a challenge case of 31L of fluid ultrafiltration on haemodialysis (HD) over two days. In: Abstract Book page 90. 47<sup>th</sup> Renal Society of Australasia Annual Conference, 2019 Jun 27-29, Auckland, New Zealand
15. **Kirby J, Bonner A,** Purtell L, **Berquier I, Austin L, Healy H.** Psychosocial factors and the value of the social worker in a kidney supportive care multidisciplinary team. In: Abstract Book page 58. Oral presentation at: 47<sup>th</sup> Renal Society of Australasia Annual Conference, 2019 Jun 27-29, Auckland, New Zealand
16. **Mallett, A.** National Scale Diagnostic genomics for genetic kidney disease, ASN Kidney Week, 2019, Washington DC, United States of America
17. **Milazi M, Bonner A, Douglas C.** Closing the loop in serum phosphate control: Improving self-efficacy in patients receiving haemodialysis. Renal Society of Australasia Conference, 2019. New Zealand
18. **Milazi, M, Bonner A, Douglas C.** The missing piece: A bundled self-management intervention (4Ds) to improve patient's knowledge of phosphate control. Renal Society of Australasia Conference, 2019. New Zealand
19. **Rice M, Scuderi C, Berquier I, Purtell L, Douglas C, Bonner A, Healy H.** The role of the pharmacist in Kidney Supportive Care – A Case Example. ISN Melbourne 2019
20. **Rice M, Scuderi C, Healy H.** Pexip Pilot Pharmacy Review – Videohealth Consults Pushing Pharmacists into Patient's Homes Using Smart Technology. ISN Melbourne 2019
21. **Scuderi C, Dawson C, Rice M,** Ironside D. Supporting Medication Adherence in Patients Attending Chronic Kidney Disease (CKD) Pharmacist Outpatient Clinics. ISN Melbourne 2019
22. **Scuderi C, Leutsch K.** Whose Turf Anyway? Pharmacist's perceptions of medical dominance – Effects on Roles and Behaviour. Society of Hospital Pharmacists of Australia – Medicines Management Conference 2019
23. Yates P, Nowlan S, **Bonner A, Douglas C,** Chan, R. Developing the evidence base to strengthen nursing services: The benefits of academic-health service-policy partnerships." Australian College of Nursing National Nursing Forum, 2019. Australia
24. **Zvirawa P, Mendiola M.** An efficacy and feasibility study comparing topical use of acetic acid at the exit site versus mupirocin to prevent exit site infections (ESI) in peritoneal dialysis (PD) patients (ACES study). Renal Society of Australasia, 2019. New Zealand.

## Poster Presentations

1. Wu, **M. J. Wolley,** D. Cowley, R. D. Gordon, R. A. Fenton, M. Stowasser. Effects of acute sodium loading on NCC abundance and phosphorylation in hypertensives with raised aldosterone to renin ratio (ARR) in human urinary exosomes. 29<sup>th</sup> European Meeting on Hypertension and Cardiovascular Protection. 21-24 June 2019, Milan, Italy
2. Wu, **M. J. Wolley,** Q. Wu, R. D. Gordon, R. A. Fenton, M. Stowasser. Administration of exogenous mineralocorticoids and potassium is associated with a reduction in pendrin abundance in urinary exosomes from patients with primary aldosteronism. 29<sup>th</sup> European Meeting on Hypertension and Cardiovascular Protection. 21-24 June 2019, Milan, Italy
3. Cousins M, Bradshaw J & **Bonner, A.** Renal clinicians experience in establishing and maintaining a professional relationship with patients: A systematic review. Renal Society of Australasia, 2019. New Zealand
4. **Dawson C, Scuderi C.** Utilising an advanced scope pharmacy assistant to assess medication adherence: MAQ a difference. Renal Society of Australasia, 2019. New Zealand
5. Eranga Yapa H, Chambers S, **Purtell L & Bonner A.** Chronic kidney disease in Sri Lanka: Demographic and clinical profile. Renal Society of Australasia, 2019. New Zealand



## Poster Presentations (cont)

6. Giuliani K, Rist M, Wang X, Law B, Wilkinson R, Ungerer J, Forbes J, **Healy H**, Kassianos A. Human hypoxic proximal tubule epithelial cells (PTEC) trigger NLRP3 inflammasome activation in CD1+c dendritic cells (DC). In: *Kidney International Reports* 2019;4(7): S220. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SUN-149)
7. **Gois P**, Purtell L, **Bonner A**, **Chang GK**, **Lal V**, **Cation A**, **Kark AL**, **Healy HG**. The Keeping Kidneys Program: Baseline results form a new model of Care for Community Kidney Health. In: *Journal of the American Society of Nephrology Abstract Supplement* 2019;30:1180. Poster presented at Kidney Week American Society of Nephrology; 2019 Nov 5-10; Washington DC, US. (SA-PO0851)
8. Guo Z, **McWhinney BC**, **Ungerer JPJ**, **Wolley M**, Gordon RD, Stowasser M. Biochemical, histopathological and genetic differences between posture responsive and unresponsive aldosterone-producing adenomas. The 15<sup>th</sup> Asian-Pacific Congress of Hypertension (APCH) 2019. 24-27 November 2019, Brisbane, QLD, Australia. Poster Presentation – Abstract 43. (also presented at the 2019 Princess Alexandra Hospital Health Symposium and the 2019 Translational Research Symposium)
9. Guo Z, Cowley D, Poglitsch M, **McWhinney BC**, **Ungerer JPJ**, **Wolley M**, Stowasser M. The effect of ramipril on the aldosterone/renin ratio and aldosterone/angiotensin II ratio in patients with primary aldosteronism: A pilot study. The 15<sup>th</sup> APCH 2019. 24-27 November 2019, Brisbane, QLD, Australia. Moderated Poster Presentation – Abstract 19. (selected as a finalist of ISH students for the poster award and awarded with the Best Student Post Presentation Award at the 15<sup>th</sup> APCH 2019)
10. **Healy HG**, Giuliani KT, Wang X, Forbes JM, Kassianos AJ. Human Hypoxic Proximal Tubule Epithelial Cells (PTECs) Trigger NLRP3 Inflammasome Activation in CD1c+ Dendritic Cells (DC). In: *Journal of the American Society of Nephrology Abstract Supplement* 2019;30:921. Poster presented at: Kidney Week American Society of Nephrology; 2019 Nov 5-10; Washington DC, US. (SA-PO0620)
11. **Hepburn K**, **Pastore G**, Jegatheesan D, **Ranganathan D**. Proximity of residence to silica mines as a risk factor for anti-neutrophil cytoplasmic antibody-associated (ANCA) vasculitis
12. Hoy W, Zhang J, Wang Z, **Healy H**, Venuthurupalli SK, Fassett R, Tan KS, Cherian R and others. The end of the CKD journey – renal replacement therapy (RRT) or death without RRT: the CKD.Qld experience. In: *Kidney International Reports* 2019;4(7): S108. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SAT-242)
13. Hoy W, Zhang J, Wang Z, **Healy H**, Venuthurupalli SK, Fassett R, Tan KS, Cherian R and others. The CKD.Qld Registry: characteristics and course of chronic kidney disease (CKD) patients in public nephrology care in Queensland, Australia. In: *Kidney International Reports* 2019;4(7): S109. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SAT-243)
14. **Jahan S**, **Healy H**, **Summers K**, Giugni R, **Nicholas P**, **Ranganathan D** : Kidney Health Service, Metro North Hospitals and Health Services, Brisbane, QLD The transition care programme: Our experience in the last 10 years, Sept, 2019, Webinar
15. **Jahan S**, Purtell L, **Bonner A**, **Healy HG**, **Rawlings C**. Reasons for Referral to Kidney Supportive Care Clinic and Outcomes in Haemodialysis Population. In: *Journal of the American Society of Nephrology Abstract Supplement* 2019;30:185. Poster presented at: Kidney Week American Society of Nephrology; 2019 Nov 5-10; Washington DC, US. (TH-PO0276)
16. **Jahan S**, Purtell L, **Bonner A**, **Healy HG**, **Rawlings C**. Location and Preference for Place of Death in Those Supported by a Kidney Supportive Care Clinic. In: *Journal of the American Society of Nephrology Abstract Supplement* 2019;30:519. Poster presented at: Kidney Week American Society of Nephrology; 2019 Nov 5-10; Washington DC, US. (FR-PO0321)
17. **Jahan S**, **Rice ML**, **Scuderi CE**, **Purtell L**, **Rawlings C**, **Bonner A** & **Healy HG**. Conservatively managed patients with advanced CKD. What medications can be deprescribed? American Society of Nephrology 2019. Washington DC, USA
18. Khan MA, Giuliani K, Wang X, Hoy W, **Healy H**, Gobe G, **Kassianos A**. Model to test plant-derived chronic kidney disease therapies. In: *Kidney International Reports* 2019;4(7): S90. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SAT-197)
19. Khan MA, Wang X, Giuliani K, Hoy W, **Healy H**, Gobe G, **Kassianos A**. Establishing a human kidney culture model to test plant-derived chronic kidney disease therapies. ISN World Congress of Nephrology, 2019. Melbourne, Australia
20. Khan MA, Wang X, Giuliani K, Hoy W, **Healy H**, Gobe G, **Kassianos A**. Functional response of human primary proximal tubular epithelial cells to oxidative stress is dependent upon underlying histopathology. RBWH Health Care Symposium, 2019. Brisbane, Australia.
21. **Kilday K**, **Kassianos AJ**, **Hultin S**, B Law, Wang X, Giuliani K, **John G**, Wilkinson R, Francis R, **Harfield M**, See E, Ungerer J, **Healy H**. Functional specialisation of natural killer cell subsets in human kidney transplant rejection. In: *Kidney International Reports* 2019;4(7): S32. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SAT-069)
22. **Kirby J**, Purtell L, **Bonner A**, **Berquier I**, **Austin L**, **Douglas C**, **Healy H**. Are we wasting your time? Improving time efficiency for patients and families attending a kidney supportive care program. In: Abstract Book page 56. Poster presentation: at the 47<sup>th</sup> Renal Society of Australasia Annual Conference, 2019 Jun 27-29, Auckland, New Zealand
23. **Kirby J**, **Purtell L** & **Bonner A**. Kidney Supportive Care for Aboriginal and Torres Strait Islander people. National Allied Health conference, 2019. Australia
24. **Kirby J**, **Purtell L** & **Bonner A**. No time to waste. Tailoring the model of care of a Kidney Supportive Care program to prioritise the needs of patients and families attending. National Allied Health conference, 2019. Australia
25. Mckie A, **Bonner A** & **Green T**. Understanding nurse's perceptions of sexual dysfunction in people with end stage kidney disease requiring haemodialysis. Renal Society of Australasia, 2019. New Zealand
26. **Mon SY**, Do Campo J. Ramsay Hunt Syndrome and similar entity: Management dilemma. Royal Australian College of Physicians Congress, May 2019, Auckland, New Zealand
27. **Mon SY**, Yates D, Oh Y, **Kubler P**, **Ranganathan D**. A Multi-centre Retrospective Cohort Study Assessing the Incidence of Serious Infections in Lupus Nephritis Patients, Compared to Non-renal Systemic Lupus Erythematosus \_world Congress of Nephrology, March 2019
28. Owens E, **Healy H**, Tan KS, Venuthurupalli SK, Ellis R, **Cameron A**, Gobe G, Hoy W. Geographical districtuoin of “uncertain” renal disease diagnosis in renal specialty practices of South-East Queensland and Darling Downs. In: *Kidney International Reports* 2019;4(7): S257. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SUN-236)

## Poster Presentations (cont)

29. **Pedro G, Purtell L, Bonner A, Chang G, Lal V, Cation A, Kark A & Healy H.** The Keeping Kidneys program: Baseline results from a new model of care of community kidney health. American Society of Nephrology 2019. Washington DC, USA
30. **Purtell L, Bonner A, Berquier I, Douglas C, Healy H.** Longitudinal evaluation of patients with advanced stages of chronic kidney disease attending a multidisciplinary kidney supportive care clinic. In: *Kidney International Reports* 2019;4(7): S198. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SUN-101)
31. **Purtell L, Bonner A, Berquier I, Douglas C, Healy H.** Supportive care for Aboriginal and Torres Strait Islander people with advanced CKD in an urban setting. In: *Kidney International Reports* 2019;4(7): S369. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (MON-162)
32. **Ranganathan D, Williams L, Williams N, Wolley M.** ACRER study in PD patients; World Congress of Nephrology, March 2019
33. **Rice M, Scuderi C, Berquier I, Purtell L, Douglas C, Bonner A, Healy H.** The role of the pharmacist in Kidney Supportive Care – a case example. In: *Kidney International Reports* 2019;4(7): S369. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (MON-163)
34. **Rice M, Scuderi C, Healy H.** Pexip pilot pharmacy review: Videohealth consults pushing pharmacists into patients' homes using smart technology. In: *Kidney International Reports* 2019;4(7): S352. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (MON-118)
35. **Rice M, Scuderi C, Purtell L, Bonner A & Healy H.** Kidney Supportive Care (KSC) deprescribing. Society of Hospital Pharmacists of Australia 2019. Australia
36. **Scuderi C, Rice M, Henty A, Purtell L, Bonner A & Healy H.** Role of pharmacists in a GP with Special Interest chronic disease clinic – Keeping Kidneys. Society of Hospital Pharmacists of Australia 2019. Australia
37. **Scuderi C, Millhouse S, Rice M, Ironside D, Dawson C, Zipf J.** Use of a self-reported measure of medication adherence in a chronic kidney disease clinic. Society of Hospital Pharmacists of Australia – Medicines Management Conference 2019
38. **Sowa M, Purtell L, Hoy W, Healy H, Bonner A, Connelly L.** Kidney Supportive Care: Health service utilization outcomes from a program implementation in Brisbane, Australia. In: *Kidney International Reports* 2019;4(7): S174. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SUN-049)
39. **Talbot B, Gois PF, Healy H, Gallagher A, Sen S, Chadban S, Gallagher M, Knight J and others.** Variations in environmentally sustainable practice within Australian Dialysis Units: time for a nationwide approach. In: *Kidney International Reports* 2019;4(7): S178. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia. (SUN-058)
40. **Wang X, Kassianos AJ, Kilday K, Wilkinson R, Healy H.** Molecular profiling of apical versus basolateral exosomes derived from human proximal tubule epithelial cells (PREC) under normal and disease conditions. In: *Kidney International Reports* 2019;4(7): S32. Poster presented at: International Society of Nephrology World Congress of Nephrology, 2019 Apr 12-15, Melbourne, Australia.

## Details of staff that completed their PhDs in 2019 within your department / research group

Name	Name of Project	Completed Date	Affiliated University/ies
Becker Law	Functional characterisation of innate lymphocyte subsets in human kidney disease	24 Sept 2019	QUT

## Other communications and outputs

### KIDNEY HEALTH SERVICE INTERNATIONAL VISITING ACADEMICS

Visiting Academic	Hosted By	Event	Visiting Academic's Institute
Associate Professor Suceena Alexander, MD,	<b>Kassianos, A.</b> Queensland Institute of Medical Research (QIMR), <b>John G.</b> Kidney Health Service, <b>Healy H.</b> Kidney Health Service	Queensland Institute of Medical Research Conjoint Kidney Laboratory Visit and Presentation – April 2019	Department of Nephrology, Christian Medical College, Vellore, India
Dr Seokchan Hong, MD, PhD.	<b>Kassianos, A.</b> Queensland Institute of Medical Research (QIMR), <b>Healy H.</b> Kidney Health Service	Queensland Institute of Medical Research Conjoint Kidney Laboratory Visit and Presentation – April 2019	Division of Rheumatology, Department of Internal Medicine, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea
Professor Sara Davison	<b>Healy H.</b> Kidney Health Service, <b>Austin, L.</b> Kidney Supportive Care, <b>Berquier I.</b> Kidney Supportive Care, <b>Bonner A.</b> Professorial Nursing Unit	Key Note Speaker: Kidney Supportive Care Symposium – April 2019	Nephrologist and Bioethicist, Department of Medicine, University of Alberta. Co-chair of Kidney Disease Improving Global Outcomes (KDIGO) and Lead for Kidney Care, Canada

## Other communications and outputs (cont)

### KIDNEY HEALTH INNOVATIONS

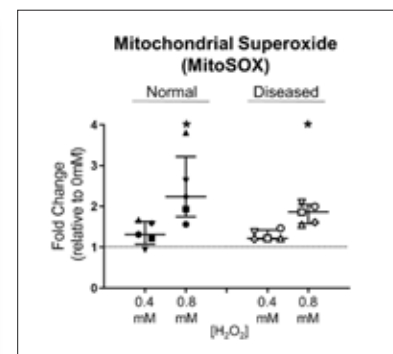
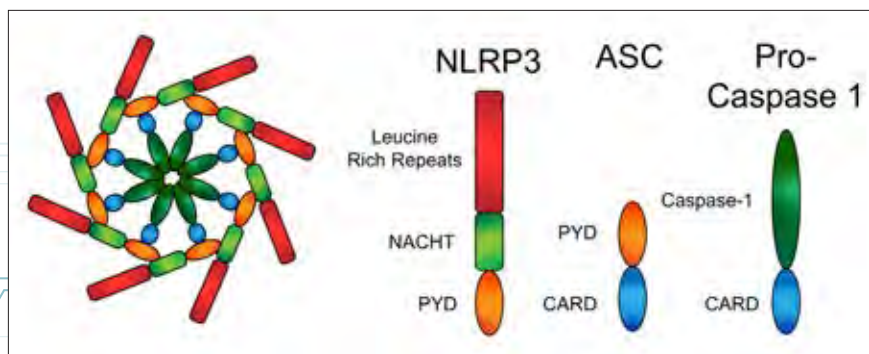
The Keeping Kidneys project was awarded \$359,000 in Metro North Hospital and Health Service (MNHHS) Leading Innovation through Networking and Knowledge – Sharing (LINK) innovation funding for the expansion and scientific evaluation of the model from 1 May 2019 to 30 April 2020. This includes a component of funding to research partner QUT for data analysis and evaluation of the project.

### INTERNATIONAL SISTER SITES

**International Society of Nephrology Level B sponsorship** – Dr Sudha Ekambaram (EC), Mehta Multispecialty Hospital, Chennai, India and **Dwarakanathan Ranganathan** (SC), Dr Peter Trnka(SC) – US\$ 12000 pa for years 2018 and 2019.



### NLRP3 INFLAMMASOME





# DEPARTMENT OF NEUROLOGY-EPILEPSY TEAM

Commencement of the integrating Genomics into Clinical Care research project and recruitment of a research assistant and genetic counsellor based in neurology for this project

UQCCR Publication of the Month July 2019 “Deciphering the role of epigenetics in self-limited epilepsy with centrotemporal spikes”.

## Honorary Positions: e.g. Non-RBWH staff with research appointments at RBWH

Name	Position	FTE	Research Program	Affiliated University/ies
Kimberley Irwin	Clinical Trial Coordinator	0.66	Epilepsy Clinical Trials	University of Queensland
Yvonne Gautam	Clinical Trial Officer	0.6	Epilepsy Clinical Trials	University of Queensland
Carmen Bennett	Research Assistant	0.6	Integrating Genomics into Clinical Care	University of Queensland
Melanie Tom	Genetic Counsellor	0.6	Integrating Genomics into Clinical Care	University of Queensland

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Professor David Reutens</b>		STAR -2 Open Label Extension Study to ZYN2-CL-03 to Assess the Long-Term Safety and Efficacy of ZYN002 Administered as a Transdermal Gel to Patients with Partial Onset Seizures
<b>Professor David Reutens</b>		GWEP1521 A double-blind, randomized, placebo-controlled study to investigate the efficacy and safety of cannabidiol (GWP42003-P, CBD) as add-on therapy in patients with tuberous sclerosis complex who experience inadequately-controlled seizures
<b>Professor David Reutens</b>		E2007-G000-338 A Multicenter, Double-Blind, Randomized, Placebo-Controlled Trial With an Open-Label Extension Phase of Perampanel as Adjunctive Treatment in Subjects at Least 2 Years of Age With Inadequately Controlled Seizures Associated With Lennox Gastaut Syndrome
<b>Professor David Reutens</b>		EP0091 A randomised, double-blind, placebo-controlled, dose finding study to evaluate the efficacy and safety of padsevonil as adjunctive treatment of focal-onset seizures in adult subjects with drug-resistant epilepsy
<b>Professor David Reutens</b>		EP0092 A multicenter, randomized, double-blind, placebo-controlled, parallel-group study to evaluate the efficacy and safety of padsevonil as adjunctive treatment of focal-onset seizures in adult subjects with drug-resistant epilepsy
<b>Professor David Reutens</b>		EP0093 A open label, multicentre, extension study to evaluate the safety and efficacy of padsevonil as adjunctive treatment of focal-onset seizures in adult subjects with drug resistant epilepsy
<b>Professor David Reutens</b>		YKP3089C021 An Open Label, Multicentre, Safety and Pharmacokinetic Study of YKP3089 as Adjunctive Therapy in Subjects with Partial Onset Seizures
<b>Professor David Reutens</b>		OPTALERT Seizure detection from eyelid movement using a wearable device in epilepsy



## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Dr Lata Vadlamudi</b>	<b>Dr Lata Vadlamudi</b>	Integrating Genomics into Care Centre for Clinical Research (CCR), UQ
<b>Dr Lata Vadlamudi</b>	<b>Dr Lata Vadlamudi</b>	Functional Genomics with Australian Institute of Bioengineering and Nanotechnology (AIBN), UQ

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Professor David Reutens</b>	Fellow of the Australian Academy of Health and Medical Science	

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Dr Lata Vadlamudi</b>	Epilepsy Service Neurology Department RBWH	A functional genomics approach to personalise refractory epilepsy management	RBWH Research Foundation	\$40,000	\$40,000	2019
<b>DC Reutens</b> and 23 other applicants	Epilepsy Service Neurology Department RBWH	ARC Training Centre for Innovation in Biomedical Imaging Technology	ARC Industrial Transformation Training Centres	\$4,744,000		2017-2021
<b>DC Reutens</b> , T Woodruff, M Ruitenber, M Chen, G McLachlan	Epilepsy Service Neurology Department RBWH	Targeting Complement in post-traumatic epileptogenesis	United States Department of Defence	\$696,000		2017-2019

## 2019 Research Publications

### Journal Articles

- Du J, Vegh V, **Reutens D**. Small changes in synaptic gain lead to seizure-like activity in neuronal network at criticality. *Sci Rep* 2019 Jan 31;9(1):1097. doi: 10.1038/s41598-018-37646-9
- Vogel M, Pellicer Guridi R, Su J, Vegh V, **Reutens D**. 3D-Spatial encoding with permanent magnets for ultra-low field magnetic resonance imaging. *Sci Rep* 2019 Feb 6;9(1):1522. doi: 10.1038/s41598-018-37953-1
- Venkatachalam TK, Bernhardt PV, Pierens GK, Stimson DHR, Bhalla R, **Reutens DC**. Synthesis and characterization of indium (III) bis-thiosemicarbazone complexes: 18F incorporation for PET imaging. *Aust J Chem* 2019; 72(5):383-391
- Bonyadi MR, **Reutens DC**. Optimal-margin evolutionary classifier. *IEEE Trans Evol Comput* 2019; 23(5):885-898
- Kausar ASMZ, **Reutens DC**, Weber E, Vegh V. Monopole antenna array design for 3T and 7 T magnetic resonance imaging. *PLoS One* 2019 Apr 1;14(4): e0214637
- Ziaei M, Persson J, Bonyadi MR, **Reutens DC**, Ebner NC. Amygdala functional network during recognition of own-age vs. other-age faces in younger and older adults. *Neuropsychologia*. 2019; 129:10-20
- Venkatachalam TK, Stimson DHR, Bhalla R, Mardon K, Bernhardt PV, **Reutens DC**. Synthesis of 18F-radiolabeled diphenyl gallium dithiosemicarbazone using a novel halogen exchange method and in vivo biodistribution. *J Labelled Comp Radiopharm*. 2019 62(7):321-331
- Thapaliya K, Urriola J, Barth M, **Reutens DC**, Bollmann S, Vegh V. 7T GRE-MRI signal compartments are sensitive to dysplastic tissue in focal epilepsy. *Magn Reson Imaging*. 2019 May 7; 61:1-8. doi: 10.1016/j.mri.2019.05.011
- Venkatachalam TK, Stimson DHR, Frisch K, Pierens GK, Bhalla R, **Reutens DC**. Radiolabeling of protected tryptophan with [18F] fluoromethyl tosylate: Formation of [18F] fluoromethyl ester of tryptophan instead of 1-N-[18F] fluoromethyl tryptophan methylester. *Appl Radiat Isot*. 2019; 152:172-179

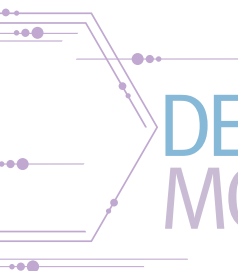
## Journal Articles (cont)

10. Stimson DHR, Qiao Z, **Reutens DC**, Venkatachalam TK. Investigation on the impact of three different quaternary methyl ammonium cartridges on the radiosynthetic yields of [18 F] fluoromethyl tosylate. *J Labelled Comp Radiopharm*. 2019; 62(9):588-595
11. Migotto M, Mardon K, Orian J, Weckbecker G, Kneuer R, Bhalla R\*, **Reutens D\***. Efficient distribution of a Novel Zirconium-89 Labeled Anti-CD20 Antibody Following Subcutaneous and Intravenous Administration in Control and Experimental Autoimmune Encephalomyelitis-Variant Mice. *Front Immunol*. 2019 Oct 18; 10:2437. doi: 10.3389/fimmu.2019.02437. eCollection 2019
12. Caradonna P, **Reutens D**, Takahashi T, Takeda S, Vegh V. Probing entanglement in Compton interactions. *J. Phys. Commun* 2019 3 105005
13. Qiao Z, Mardon K, Stimson DHR, Migotto MA, **Reutens DC**, Bhalla R. Synthesis and evaluation of 6-[18F] fluoro-3-(pyridin-3-yl)-1H-indole as potential PET tracer for targeting tryptophan 2, 3-dioxygenase (TDO). *Nucl Med Biol*. 2019 Dec 20;84-85:1-10. doi: 10.1016/j.nucmedbio.2019.12.007
14. Lawrence S, Sturgess D, **Reutens D**. The lumbar ligamentum flavum does not have two layers and is confluent with the interspinous ligament. *Clin Anat*. 2019 Nov 20. doi: 10.1002/ca.23518
15. Du J, Vegh V, **Reutens D**. Persistent sodium current blockers can suppress seizures caused by loss of low-threshold D-type potassium currents: predictions from an in silico study of Kv1 channel disorders. *Epilepsia Open* <https://doi.org/10.1002/epi4.12379>
16. Mohandas N., Loke Y.J., MacKenzie L., Bennett C., Berkovic S.F., Craig J.M., **Vadlamudi L**. Deciphering the role of epigenetics in self-limited epilepsy with centrotemporal spikes. *Epilepsy Res* 2019;156: 106163. doi: 10.1016/j.epilepsyres.2019.106163
17. Mohandas N., Loke Y.J., Hopkins S., MacKenzie L., Bennett C., Berkovic S.F., **Vadlamudi L.**, Craig J.M. Evidence for type-specific DNA methylation patterns in epilepsy: a discordant monozygotic twin approach. *Epigenomics*. 2019 Jun;11(8):951-968. doi: 10.2217/epi-2018-0136. Epub 2019 Jun 5
18. Vajda FJE, O'Brien TJ, Graham JE, Hitchcock AA, **Lander CM, Eadie MJ**. Preexisting illness, fetal malformation, and seizure control rates in pregnant women with epilepsy. *Epilepsy Behav*. 2019 Nov 8:106481. doi: 10.1016/j.yebeh.2019.106481. [Epub ahead of print]
19. Vajda FJE, Graham JE, Hitchcock AA, **Lander CM**, O'Brien TJ, **Eadie MJ**. Antiepileptic drugs and foetal malformation: analysis of 20 years of data in a pregnancy register. *Seizure*. 2019 Feb; 65:6-11. doi: 10.1016/j.seizure.2018.12.006. Epub 2018 Dec 19
20. Vajda FJE, O'Brien TJ, Graham JE, Hitchcock AA, **Lander CM, Eadie MJ**. Valproate-associated foetal malformations-Rates of occurrence, risks in attempted avoidance. *Acta Neurol Scand*. 2019 Jan;139(1):42-48. doi: 10.1111/ane.13005. Epub 2018 Aug 14
21. Somerville E, Black A, **Lander C**, Jones D, Beran R, Gordon J, Burrow J, Archer J, Dunne J, Cook M, Berkovic S, Harvey AS. A decision tree to determine fitness to drive in epilepsy: Results of a pilot in two Australian states. *Epilepsia*. 2019 Jul;60(7):1445-1452. doi: 10.1111/epi.16020. Epub 2019 May 21.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Oral Presentations

1. **Dr Lata Vadlamudi** State-of-the-Art Symposium, Royal Brisbane and Women's Hospital 11 September 2019 Improving patient outcomes in neurological disorders: Piloting a neurogenetics service for refractory epilepsy patients
2. **Dr Cecillie Lander** Update on Pregnancy and Epilepsy, for Epilepsy Queensland Annual Conference, November 2019. Management of Women with Epilepsy, Conference of Hospital Pharmacists, Gold Coast November 2019.



# DEPARTMENT OF NEUROLOGY- MOTOR NEURONE DISEASE RESEARCH

Participated in multi-site Phase 2 and Phase 3 clinical trials with both pharmaceutical and collaborative research groups. Participated in investigator-led research in collaboration with the RBWH Oncology Dept and the University of New South Wales.

**Securing of \$249,931 funding from FightMND to further validate “Point of care assessment of venous acid-base balance and creatinine as markers for disease progression in patients with Motor Neuron Disease (MND)”:**

- Investigators: F Steyn, S Ngo, R Henderson, L van den Berg, R van Eij
- Project duration: January 2020-December 2021
- Pilot data for this grant was generated through funding support from a 2018 RBWH Foundation Research Grant “Use of Point of Care (PoC) testing to improve respiratory management and monitoring of disease progression in ALS: A Pilot Study”.

**Securing of \$718,125 funding from FightMND to conduct an investigator-initiated, multi-centre Phase 1 trial “Targeting metabolic flexibility in amyotrophic lateral sclerosis (ALS) (MetFlex); Safety and tolerability of Trimetazidine for the treatment of ALS”:**

- Investigators: S Ngo, R Henderson, L van den Berg, A Al-Chalabi, F Steyn, R van Eijk, JP Loeffler
- Project duration: January 2020-December 2021
- The application for funding was built off data and publications arising from a current RBWH study “Metabolic Exploration in Motor Neurone Disease (MEND-MND).

**Securing of \$39,964 funding from the RBWH and RBWH Foundation Research Grants scheme to conduct a novel project “Investigating the immunometabolic nature of MND: a study linking metabolism, inflammation, and clinical outcomes in MND patients”:**

- Investigators: S Ngo, R Henderson, F Steyn, P McCombe, R Gordon
- Project duration: January 2020-December 2020
- The application for funding was based on data, obtained in part, through a current RBWH study “Metabolic Exploration in Motor Neurone Disease (MEND-MND).

**Securing of a \$696,210 Ideas Grant from the National Health and Medical Research Council to conduct pre-clinical research into the modulation of metabolism as a therapeutic approach in MND:**

- Investigators: S Ngo, F Steyn, P Noakes
- Project duration: January 2020-December 2022
- The application for funding included pre-clinical mouse data that was generated due to knowledge gained through a current RBWH study “Metabolic Exploration in Motor Neurone Disease (MEND-MND).

**Securing of \$249,720 funding from the Motor Neurone Disease Research Institute of Australia to conduct pre-clinical research into understanding how interactions between mitochondria and protein aggregates might cause neuronal death in MND:**

- Investigators: S Ngo, X Wang, F Steyn, A Walker
- Project duration: April 2020-April 2022
- The application for funding included pre-clinical data obtained from human induced pluripotent stem cell derived neurons that were generated from skin samples donated by participants who enrolled in a current RBWH study “Metabolic Exploration in Motor Neurone Disease (MEND-MND).

**RBWH Research Staff with research roles, positions or appointments:** e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
Gaurav Singh	Visiting Neurologist	0.1	MND Research Fund – RBWH Foundation	Clinical Phase 2 and Phase 3 studies, Investigator-led studies	Gold Coast University Hospital
<b>Matthew Katz</b>	Research Fellow	0.5	MND Research Fund – RBWH Foundation	Clinical Phase 2 and Phase 3 studies, Investigator-led studies	
<b>Susan Heggie</b>	Research Coordinator	0.9	MND Research Fund – RBWH Foundation	Clinical Phase 2 and Phase 3 studies, Investigator-led studies	
<b>Kathryn Thorpe</b>	Research Coordinator	0.9	MND Research Fund – RBWH Foundation	Clinical Phase 2 and Phase 3 studies, Investigator-led studies	
<b>Robyn Tuffley</b>	Research Nurse	0.4	MND Research Fund – RBWH Foundation	Clinical Phase 2 and Phase 3 studies, Investigator-led studies	

**Honorary Positions:** e.g. Non-RBWH staff with research appointments at RBWH

Name	Position	FTE	Research Program	Affiliated University/ies
Frederik Steyn	Honorary Researcher	Visiting	Endocrine and Appetite Targets and Therapies for Motor Neuron Disease; A prospective observational Study; Investigating the role of energy metabolism, lipid storage and appetite in MND	University of Queensland (2008-)
Amelia Ceslis	Honorary Neuropsychologist	Visiting	Assessment of cognition and behaviour in Motor Neurone Disease in a clinical setting and the impact of education sessions on care giver well-being	University of Queensland (2016-)
Shyuan Ngo	Honorary Researcher	Visiting	Investigating the role of energy metabolism and lipid storage in MND; Studying responses of patient neurones and muscle derived from patient skin and muscle biopsies	University of Queensland (2009-)
Fleur Garton	Honorary Researcher	Visiting	Understanding Rare Disease Mechanisms; Clinical Presentation and Prediction	University of Queensland (2016-)
Gail Robinson	Honorary Neuropsychologist	Visiting	Longitudinal assessment of behaviour and cognition in ALS through brief Online Carer's behavioural Questionnaire (OCQ)	University of Queensland (2010-)

**Current RBWH Research Group / Department Led Research Activity**

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Robert Henderson</b>	Collaborative Medicinal Development Pty Ltd	A Multi-centre Randomised, Double-Blind, Placebo-Controlled Phase 2 Study of Cu(II) ATSM in Patients with Amyotrophic Lateral Sclerosis/Motor Neurone Disease
<b>Robert Henderson</b>	Orion Pharma / PRA Health Sciences	Effects of oral Levosimendan (ODM-109) on respiratory function in patients with ALS
<b>Robert Henderson</b>	Steve Vucic, Matthew Kiernan, Westmead Hospital / IQVia	Phase 2 Randomised Placebo-controlled Double-blind Study to assess the Efficacy and Safety of Tecfidera in Patients with Amyotrophic Lateral Sclerosis – TEALS study
<b>Robert Henderson</b>	Cytokinetics Inc./ Parexel International Pty Ltd	A Phase 2, Multi-centre, Double-Blind, Randomised, Dose-ranging, placebo-controlled study to evaluate the efficacy, Safety, and tolerability of CK-2127107 in patients with Amyotrophic Lateral Sclerosis (ALS)



## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Shyuan Ngo (UQ)	<b>Pam McCombe</b> (Neurology), <b>Robert Henderson</b> (Neurology)	Energy metabolism and lipid storage in motor neurone disease (MND)
Frederik Steyn (UQ)	<b>Pam McCombe</b> (Neurology), <b>Robert Henderson</b> (Neurology)	Endocrine and Appetite Targets and Therapies for Motor Neuron Disease; A prospective observational Study
Frederik Steyn (UQ)	<b>Robert Henderson</b> (Neurology)	Use of Point of Care (PoC) testing to improve respiratory management and monitoring of disease progression in ALS: A Pilot Study
Amelia Ceslis	<b>Robert Henderson</b> (Neurology)	Assessment of cognition and behaviour in Motor Neurone Disease in a clinical setting and the impact of education sessions on care giver well-being
Gail Robinson (UQ)	<b>Robert Henderson</b> (Neurology), <b>Pam McCombe</b> (Neurology)	Longitudinal assessment of behaviour and cognition in ALS through brief Online Carer's behavioural Questionnaire (OCQ)
Fleur Garton (UQ)	<b>Robert Henderson</b> (Neurology)	Understanding Rare Disease Mechanisms; Clinical Presentation and Prediction
<b>David Wyld</b> (Oncology)	<b>Robert Henderson</b> (Neurology)	Peripheral Neuropathy in Chemotherapy-treated Patients: Predictors, Assessment strategies and Functional Outcomes- INFOCUS Study

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups/ Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Gail Robinson	Neurology	Longitudinal assessment of behaviour and cognition in ALS through brief Online Carer's behavioural Questionnaire (OCQ)	MNDRIA	\$3000	\$3000	2018-2019

## 2019 Research Publications

### Journal Articles

1. Trabjerg B, **Henderson RD** et al. ALS in Danish Registries: heritability and links to psychiatric and cardiovascular disorders accepted in Neurology:Genetics December 2019
2. Vucic S, **Henderson RD** et al. Phase 2 Randomised Placebo Controlled Double Blind Study to Assess the Efficacy and Safety of Tecfidera in Patients with Amyotrophic Lateral Sclerosis (TEALS Study) accepted in Medicine December 2019
3. Al-Chalabi A, **Henderson RD** et al. A Proposal for New Diagnostic Criteria for ALS accepted in Clinical Neurophysiology December 2019
4. **Henderson RD**, Eisen E. ALS Split Phenotypes – to what extent do they exist. Accepted in Clinical Neurophysiology December 2019
5. Wray N, **Henderson RD**, **McCombe PA** et al. Significant out-of-sample classification from methylation profile scoring for amyotrophic lateral sclerosis. Accepted in Genomic Medicine December 2019
6. Lee A, Arachchige BJ, Reed S, **Henderson RD**, Aylward J, **McCombe PA**. Plasma from some patients with Amyotrophic Lateral Sclerosis exhibits elevated formaldehyde levels. Accepted in Journal of the Neurological Sciences November 2019
7. McCrary JM, Goldstein D, Wyld D, **Henderson RD**, Lewis CR, Park SB. Mobility in survivors with chemotherapy-induced peripheral neuropathy and utility of the 6-min walk test. J Cancer Surviv. 2019 Jun 6. doi: 10.1007/s11764-019-00769-7
8. Cousyn L, Law-Ye B, Pyatigorskaya N, Debs R, Froissart R, Piraud M, Federico A, Salvatore S, Cerase A, Macário MC, Durães J, Kim SH, Adachi H, Audoin B, Aygnac X, Da Y, **Henderson RD**, La Piana R, Laule C, Nakamagoe K, Raininko R, Schols L, Sirrs SM, Viader F, Jastrzębski K, Leclercq D, Nadjar Y. Brain MRI features and scoring of leukodystrophy in adult-onset Krabbe disease. Neurology. 2019 Jul 23. doi: 10.1212/WNL.00000000000007943
9. **McCombe PA**, **Henderson RD**, Lee A, Woodruff T, Lee J, Restuadi R, McRae A, Wray NR, Ngo ST and Steyn FJ Gut microbiota in ALS: possible role in pathogenesis? 2019. Expert Review of Neurotherapeutics. 19 (9): 785-805
10. Ngo ST\*, van Eijk RPA\*, Chachay V, van den Berg LH, **McCombe PA**, **Henderson RD** and Steyn FJ. Loss of appetite is associated with a loss of weight and fat mass in patients with amyotrophic lateral sclerosis. 2019. Amyotrophic Lateral Sclerosis and Frontotemporal Degeneration. 20(7-8):497-505. \*Equal contribution
11. Kirk SE, Tracey TJ, Steyn FJ and Ngo ST. Biomarkers of metabolism in ALS. 2019. Frontiers in Neurology. 10: 191
12. **McCombe PA**, Ngo ST, Guo CC, Fazlollahi A, Bollmann S, Wang L, Hu X, Barth M, Salvado O, Davis M, Ceslis A, Robinson GA, Henderson RD, and Steyn FJ. An ALS patient with a novel TBK1 mutation, widespread brain involvement, behaviour changes, and metabolic dysfunction. 2019. Journal of Neurology, Neurosurgery, and Psychiatry. 90 (8): 952-954
13. Beecroft SJ, Olive M, Quereda LG, Gallano MP, Ojanguren I, McLean C, **McCombe PA**, Laing NG, Ravenscroft G. Cylindrical spirals in two families: Clinical and genetic investigations. Neuromuscul Disord. 2019 Dec 25. pii: S0960-8966(19)31233-7. doi: 10.1016/j.nmd.2019.12.006. [Epub ahead of print].
14. Kunchok A, Malpas C, Nytrova P, Havrdova EK, Alroughani R, Terzi M, Yamout B, Hor JY, Karabudak R, Boz C, Ozakbas S, Olascoaga J, Simo M, Granello F, Patti F, **McCombe PA**, Csepány T, Singhal B, Bergamaschi R, Frago Y, Al-Harbi T, Turkoglu R, Lechner-Scott J, Laureys G, Oreja-Guevara C, Pucci E, Sola P, Ferraro D, Altintas A, Soysal A, Vucic S, Grand'Maison F, Izquierdo G, Eichau S, Lugaresi A, Onofrij M, Trojano M, Marriott M, Butzkueven H, Kister I, Kalincik T. Clinical and therapeutic predictors of disease outcomes in AQP4-IgG+ neuromyelitis optica spectrum disorder. Mult Scler Relat Disord. 2019 Nov 25; 38:101868. doi: 10.1016/j.msard.2019.101868. [Epub ahead of print]

## Journal Articles (cont)

15. Tea F, Lopez JA, Ramanathan S, Merheb V, Lee FXZ, Zou A, Pilli D, Patrick E, van der Walt A, Monif M, Tantsis EM, Yiu EM, Vucic S, Henderson APD, Fok A, Fraser CL, Lechner-Scott J, Reddel SW, Broadley S, Barnett MH, Brown DA, Lunemann JD, Dale RC, Brilot F; **Australasian and New Zealand MOG Study Group**. Characterization of the human myelin oligodendrocyte glycoprotein antibody response in demyelination. *Acta Neuropathol Commun*. 2019 Sep 3;7(1):145. doi: 10.1186/s40478-019-0786-3
16. Fambiatos A, Jokubaitis V, Horakova D, Kubala Havrdova E, Trojano M, Prat A, Girard M, Duquette P, Lugaresi A, Izquierdo G, Grand'Maison F, Grammond P, Sola P, Ferraro D, Alroughani R, Terzi M, Hupperts R, Boz C, Lechner-Scott J, Pucci E, Bergamaschi R, Van Pesch V, Ozakbas S, Granella F, Turkoglu R, Iuliano G, Spitaleri D, **McCombe PA**, Solaro C, Slee M, Ampapa R, Soysal A, Petersen T, Sanchez-Menoyo JL, Verheul F, Prevost J, Sidhom Y, Van Wijmeersch B, Vucic S, Cristiano E, Saladino ML, Deri N, Barnett M, Olascoaga J, Moore F, Skibina O, Gray O, Fragoso Y, Yamout B, Shaw C, Singhal B, Shuey N, Hodgkinson S, Altintas A, Al-Harbi T, Csepany T, Taylor B, Hughes J, Jun JK, van der Walt A, Spelman T, Butzkueven H, Kalincik T. Risk of secondary progressive multiple sclerosis: A longitudinal study. *Mult Scler*. 2020 Jan;26(1):79-90. doi: 10.1177/1352458519868990. Epub 2019 Aug 9
17. **McCombe PA**. Women who contributed to past research in multiple sclerosis. *Mult Scler*. 2019 Oct;25(11):1440-1443. doi: 10.1177/1352458519846101. Epub 2019 May 28
18. Kerage D, Sloan EK, Mattarollo SR, **McCombe PA**. Interaction of neurotransmitters and neurochemicals with lymphocytes. *J Neuroimmunol*. 2019 Jul 15; 332:99-111. doi: 10.1016/j.jneuroim.2019.04.006. Epub 2019 Apr 11. Review
19. Alruwaili AR, Pannek K, **Henderson RD**, Gray M, Kurniawan ND, **McCombe PA**. Tract integrity in amyotrophic lateral sclerosis: 6-month evaluation using MR diffusion tensor imaging. *BMC Med Imaging*. 2019 Feb 22;19(1):19. doi: 10.1186/s12880-019-0319-3
20. Brown JW, Coles A, Horakova D, Havrdova E, Izquierdo G, Prat A, Girard M, Duquette P, Trojano M, Lugaresi A, Bergamaschi R, Grammond P, Alroughani R, Hupperts R, **McCombe PA**, Van Pesch V, Sola P, Ferraro D, Grand'Maison F, Terzi M, Lechner-Scott J, Flechter S, Slee M, Shaygannejad V, Pucci E, Granella F, Jokubaitis V, Willis M, Rice C, Scolding N, Wilkins A, Pearson OR, Ziemssen T, Hutchinson M, Harding K, Jones J, McGuigan C, Butzkueven H, Kalincik T, Robertson N; MSBase Study Group. Association of Initial Disease-Modifying Therapy With Later Conversion to Secondary Progressive Multiple Sclerosis. *JAMA*. 2019 Jan 15;321(2):175-187. doi: 10.1001/jama.2018.20588
21. Kalincik T, Kubala Havrdova E, Horakova D, Izquierdo G, Prat A, Girard M, Duquette P, Grammond P, Onofrij M, Lugaresi A, Ozakbas S, Kappos L, Kuhle J, Terzi M, Lechner-Scott J, Boz C, Grand'Maison F, Prevost J, Sola P, Ferraro D, Granella F, Trojano M, Bergamaschi R, Pucci E, Turkoglu R, **McCombe PA**, Pesch V, Van Wijmeersch B, Solaro C, Ramo-Tello C, Slee M, Alroughani R, Yamout B, Shaygannejad V, Spitaleri D, Sánchez-Menoyo JL, Ampapa R, Hodgkinson S, Karabudak R, Butler E, Vucic S, Jokubaitis V, Spelman T, Butzkueven H. Comparison of fingolimod, dimethyl fumarate and teriflunomide for multiple sclerosis. *J Neurol Neurosurg Psychiatry*. 2019 Apr;90(4):458-468. doi: 10.1136/jnnp-2018-319831. Epub 2019 Jan 13
22. *J Neurol Neurosurg Psychiatry*. 2019 Aug;90(8):955-956. doi: 10.1136/jnnp-2018-319410. Epub 2018 Nov 19. No abstract available
23. Nguyen AL, Havrdova EK, Horakova D, Izquierdo G, Kalincik T, van der Walt A, Terzi M, Alroughani R, Duquette P, Girard M, Prat A, Boz C, Sola P, Ferraro D, Lugaresi A, Lechner-Scott J, Barnett M, Grand'Maison F, Grammond P, Ramo-Tello C, Turkoglu R, **McCombe PA**, Pucci E, Trojano M, Granella F, Spitaleri D, Van Pesch V, Soysal A, Oreja-Guevara C, Verheul F, Vucic S, Hodgkinson S, Slee M, Ampapa R, Prevost J, Menoyo JLS, Skibina O, Solaro C, Olascoaga J, Shaw C, Madsen KG, Naidoo K, Hyde R, Butzkueven H, Jokubaitis V; MSBase Study Group. Incidence of pregnancy and disease-modifying therapy exposure trends in women with multiple sclerosis: A contemporary cohort study. *Mult Scler Relat Disord*. 2019 Feb; 28:235-243. doi: 10.1016/j.msard.2019.01.003. Epub 2019 Jan 3
24. Mehta D, Wani S, Wallace L, Henders AK, Wray NR, **McCombe PA**. Cumulative influence of parity-related genomic changes in multiple sclerosis. *J Neuroimmunol*. 2019 Mar 15; 328:38-49. doi: 10.1016/j.jneuroim.2018.12.004. Epub 2018 Dec 17.

## Book Chapters / Letters

1. **Henderson RD**, Spies J. Autonomic Neuropathy in *Textbook of Neurology*. Hankey G (ed). 2019.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **Ngo ST**. Insights into metabolic imbalance in motor neuron disease. Australasian Neuroscience Society Meeting, Adelaide, 2019.

### Oral Presentations

1. Ngo ST, Chachay V, McLaren-Hedwards T, Lucia D, **Henderson RD**, **McCombe PA**, Steyn, F.J. Increased dietary intake could offset increased resting energy expenditure in hypermetabolic patients with MND. 30<sup>th</sup> International ALS/MND Symposium, Perth, Australia
2. Ngo ST, van Eijk RPA, Chachay V, van den Berg LH, **McCombe PA**, **Henderson RD**, Steyn, F.J. Loss of appetite is associated with a loss of weight and fat mass in patients with amyotrophic lateral sclerosis. 30<sup>th</sup> International ALS/MND Symposium, Perth, Australia
3. Kirk SE, Tefera TW, Kelk D, Tracey TJ, Wimberger E, **McCombe PA**, **Henderson RD**, Steyn FJ, Ngo, ST. Altered skeletal muscle glucose-fatty acid flux in amyotrophic lateral sclerosis. 30<sup>th</sup> International ALS/MND Symposium, Perth, Australia

### Poster Presentations

1. Ngo S, Holdom C, **McCombe PA**, **Henderson RD**, Steyn FJ. On-the-spot assessment of venous creatinine as a marker for change in fat free mass and disease progression in patients with MND. 30<sup>th</sup> International ALS/MND Symposium, Perth, Australia
2. Tracey TJ, Steyn FJ, **McCombe PA**, **Henderson RD**, Wolvetang EJ, Ngo ST. Optimisation of a method for the direct reprogramming of patient fibroblasts into lower motor neurons. 30<sup>th</sup> International ALS/MND Symposium, Perth, Australia
3. Ceslis A, Henders A, Gallagher LA, Wray N, **Henderson RD**, **McCombe PA** & Robinson, G. A. Development of the Online Carer's Questionnaires (OCQ) behaviour screen for MND. 30<sup>th</sup> International Symposium on ALS/MND 2019. Perth, Australia.

# DEPARTMENT OF NEUROLOGY- STROKE

RBWH continues to contribute to acute stroke trials in Australia, an area where Australia is highly competitive internationally. In recognition of this contribution, landmark publications in the *Lancet* and the *New England Journal of Medicine* in 2019 included stroke specialists from RBWH. These articles have changed practice and led to many more patients receiving thrombolytic therapy, with the potential for better outcomes and less stroke-related disability.

We also farewelled our long-servicing Clinical Trial coordinator Genevieve Skinner but have plans to restart clinical trial activity later in 2020. We were joined by Dr Michael Roizman as stroke fellow for the year, who contributed significantly to both the clinical and research activities of the department.

Another successful Master Stroke Business Lunch was held with Jeff Thomson as guest speaker, and many cricketing anecdotes from the 70s and 80s were shared whilst raising funds for further stroke research.

The team is looking forward to another productive year of research in 2020, contributing to, disseminating and implementing the latest in stroke research at RBWH and broader 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>Wayne Loudon</b>	PhD, QUT (2018-2024)	An Investigation of the Pre-Hospital Diagnosis and Triage of Ischaemic Hyper-Acute Stroke to Recommended Reperfusion therapies	Vivienne Tippett, <b>Andrew Wong</b> , Simon Finnigan

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Michael O'Sullivan</b>	Director	0.3	Operationally Funded	Herston Imaging Research Facility	University of Queensland
<b>Michael O'Sullivan</b>	Theme lead	0.5	Externally Funded	Clinical Neuroscience UQCCR	University of Queensland
<b>Andrew Wong</b>	Associate Professor	Academic title holder			University of Queensland

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Andrew Wong</b>	Simon Finnigan ( <i>UQ</i> ), Vivienne Tippett ( <i>QUT</i> )	SPIDER (Stroke Prehospital Informed Decision-making using EEG Recordings)
<b>Michael O'Sullivan/ Andrew Wong</b>		Apathy after Stroke

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Stephen Davis	<b>Andrew Wong, Claire Muller, Michael Roizman</b>	THALES
Bruce Campbell ( <i>Melbourne</i> )	<b>Andrew Wong, Claire Muller, Michael Roizman</b>	REMEDY
Bruce Campbell ( <i>Melbourne</i> )	<b>Andrew Wong, Claire Muller, Michael Roizman</b>	EXTEND-IA tNK part 2
Geoff Donnan ( <i>Melbourne</i> )	<b>Andrew Wong, Claire Muller</b>	RESTORE-BRAIN
Carlos Garcia Esperon ( <i>Newcastle</i> )	<b>Andrew Wong, Claire Muller, Michael Roizman</b>	TASTE
Andrew Lee ( <i>Adelaide</i> )	<b>Andrew Wong, Claire Muller, Michael Roizman</b>	ATTUNE
Bernard Yan ( <i>Melbourne</i> )	<b>Andrew Wong, Claire Muller, Michael Roizman</b>	DIRECT-SAFE
Christopher Bladin ( <i>Melbourne</i> )	<b>Claire Muller, Michael Roizman, Andrew Wong</b>	TEXAIS
Craig Anderson ( <i>George Institute for Global Health</i> )	<b>Michael O'Sullivan</b>	TRIDENT
Sharon Naismith ( <i>Sydney</i> )	<b>Michael O'Sullivan</b>	TRIDENT-Cog ( <i>trial substudy</i> )
Hugh Markus ( <i>Cambridge UK</i> )	<b>Michael O'Sullivan</b>	Apathy in Stroke International Consortium
Julie Bernhardt ( <i>Melbourne</i> )	<b>Michael O'Sullivan</b>	ISRRRA ( <i>International Stroke Recovery and Rehabilitation Alliance</i> )
Christopher Levi ( <i>Sydney/Newcastle</i> )	<b>Michael O'Sullivan</b>	MIDAS

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Andrew Wong</b>	Stroke	SPIDER ( <i>Stroke Prehospital Informed Decision-making using EEG Recordings</i> )	RBWH and RBWH Foundation Research Advisory Committee	\$39,946	\$39,946	2019
<b>Michael O'Sullivan</b>	Stroke	TRIDENT Cognitive Substudy	NHMRC	\$1.4M		2019-2022



## 2019 Research Publications

### Journal Articles

1. Campbell, B. C., Ma, H., Ringleb, P. A., Parsons, M. W., Churilov, L., Bendzus, M., . . . **Wong, A., Muller, C., . . .** Fatar, M. (2019). Extending thrombolysis to 4- 5–9 h and wake-up stroke using perfusion imaging: a systematic review and meta-analysis of individual patient data. *The Lancet*
2. Loudon, W., **Wong, A.**, Disney, M., & Tippett, V. (2019). Validated pre-hospital stroke scales to predict large vessel occlusion: a systematic review. *Australasian Journal of Paramedicine*, 16
3. Loudon, W., **Wong, A.**, Finnigan, S., & Tippett, V. (2019). Stroke Prehospital Informed Decision-Making Using EEG Recordings (SPIDER). *Prehospital Disaster Medicine*, 34(s1), s87-s88
4. Ma, H., Campbell, B. C., Parsons, M. W., Churilov, L., Levi, C. R., Hsu, C., . . . **Wong, A., . . .** Dewey, H. M. (2019). Thrombolysis guided by perfusion imaging up to 9 hours after onset of stroke. *New England Journal of Medicine* 380(19), 1795-1803.
5. **Muller, C., Roizman, M., & Wong, A.** (2019). Secondary prevention of ischaemic stroke. *Internal Medicine Journal*, 49(10), 1221-1228.
6. Roxbury, T., McMahon, K., **Wong, A.**, Farrell, A., Burfein, P., Taubert, S., . . . Copland, D. (2019). Brain activity during spoken word recognition in subacute aphasia. *Brain language*, 195, 104630.
7. McDonald MW, Black SE, Copland DA, Corbett D, Dijkhuizen RM, Farr TD, Jeffers MS, Kalaria RN, Karayanidis F, Leff AP, Nithianantharajah J, Pendlebury S, Quinn TJ, Clarkson AN, **O'Sullivan MJ.** Cognition in Stroke Rehabilitation and Recovery Research: Consensus-based Core Recommendations from the Second Stroke Recovery and Rehabilitation Roundtable. *Neurorehabilitation and Neural Repair* 2019; 33: 943-950
8. McDonald MW, Black SE, Copland DA, Corbett D, Dijkhuizen RM, Farr TD, Jeffers MS, Kalaria RN, Karayanidis F, Leff AP, Nithianantharajah J, Pendlebury S, Quinn TJ, Clarkson AN, **O'Sullivan MJ.** Cognition in Stroke Rehabilitation and Recovery Research: Consensus-based Core Recommendations from the Second Stroke Recovery and Rehabilitation Roundtable. *Int J Stroke* 2019; 14: 774-782
9. **O'Sullivan MJ,** Brownsett S, Copland DA. Language and language disorders: neuroscience to clinical practice. *Practical Neurology* 2019; 19: 380-388
10. Bernhardt J, Borschmann KN, Kwakkel G, Burridge JH, Eng JJ, Walker MF, Bird M-L, Cramer SC, Hayward KS, **O'Sullivan MJ,** Clarkson AN, Corbett D. Setting the scene for the second Stroke Recovery and Rehabilitation Roundtable *Int J Stroke* 2019; 14: 450-456
11. Hartopp N, Wright P, Ray N, Evans TE, Metzler-Baddeley C, Aggleton JP, **O'Sullivan MJ.** A key role for fornix-subiculum connectivity in recollection. *Front Syst Neurosci* 2019; 12:70
12. (Campbell, Ma, et al., 2019; Campbell, Majoie, et al., 2019; Loudon, Wong, Disney, & Tippett, 2019; Muller, Roizman, & Wong, 2019) (Loudon, Wong, Finnigan, & Tippett, 2019; Ma et al., 2019; Roxbury et al., 2019).

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **A Wong**, 1. *NOACs in Clinical Practice* and 2. *Secondary Prevention of Stroke*, Malaysia Stroke Council Stroke Masterclass, Putrajaya, Malaysia
2. **A Wong**, *Balancing Stroke Risk and Bleeding Risk and the Contraindication-to-OAC dilemma*, Abbott Asia Pacific Heart Brain Summit, Bangkok, Thailand
3. **A Wong**, *Non-stroke cerebrovascular disease*, Australasian Stroke Academy seminar, Brisbane, Australia
4. **M O'Sullivan**, *Cognition in stroke recovery trials: Why is it hard and what can we do?* Stroke Society of Australasia, Canberra, 2019
5. **M O'Sullivan**, *What, if anything, have animal models taught us about cognitive deficits after brain injury?* Australasian Neuroscience Society, Adelaide, 2019
6. **C Muller**, *Cerebral Amyloid Angiopathy*, Stroke Society of Australasia, Canberra, 2019
7. **C Muller**, *Secondary Stroke Prevention*, Australasian Stroke Academy seminar, Brisbane, Australia
8. **C Muller**, *Atrial Fibrillation*, Australasian Stroke Academy seminar, Brisbane, Australia.

# NUCLEAR MEDICINE DEPARTMENT

The Department of Nuclear Medicine at the Royal Brisbane and Women's Hospital (RBWH) is one of the largest in Australia. It provides a referral, diagnostic and therapeutic nuclear medicine service with four SPECT/CT gamma cameras, one solid state cardiac camera, BMD dual energy X-ray absorptiometry (DEXA) and a pQCT scanner. Research interests in nuclear medicine include image reconstruction methodologies, application of gating and bone mineral densitometry in various disease states.

The department hosts the state-wide Specialised PET Services Queensland, which operates two state-of-the-art PET/CT scanners and Q-TRaCE, a TGA accredited radiopharmaceutical laboratory operating a cyclotron. It offers research facilities to a wide variety of investigators. In addition to conventional tracers such as fluorodeoxyglucose ( $^{18}\text{F}$  FDG), the Service also conducts research using  $^{18}\text{F}$  FDOPA,  $^{18}\text{F}$  FMISO,  $^{18}\text{F}$  FPSMA-1007,  $^{18}\text{F}$  GE180,  $^{18}\text{F}$  FEOBV,  $^{68}\text{Ga}$  Ga-DOTATATE,  $^{68}\text{Ga}$  Ga-PSMA-11,  $^{68}\text{Ga}$  Ga-Pentixafor and  $^{89}\text{Zr}$  Ptz. There is also ongoing research interest in image reconstruction algorithms, respiratory gating and image analysis techniques.

The department also provides a radionuclide therapy service for patients with inoperable neuroendocrine tumours and has continued treatment for prostate cancer through the TheraP trial. Whilst predominantly focussed upon clinical service delivery, retrospective analysis of patients previously treated in our statewide NET service aims to more effectively tailor our treatment to patients most likely to benefit and minimise the risk of side effects.

- TheraP Lu-PSMA multicentre RCT: recruited ahead of schedule, RBWH was 3<sup>rd</sup> highest recruitment of 11 national sites
- CONTROL-NETS LuTate multicentre RCT: recruitment completed, RBWH provided 3<sup>rd</sup> highest recruitment, abstract accepted at ASCO GI Cancer Symposium 2020
- Brittany Robinson won Technologist Best Abstract Award at the Society of Nuclear Medicine and Molecular Imaging Annual Scientific Meeting (Anaheim 2019)
- David Pattison was Co-Investigator on two large successful grants:
  - ↳ \$4 million Movember / Cancer Australia grant "Up-Front PSMA" Alliance: Using Theranostics Early to Eradicate Prostate Cancer and Developing Novel Strategies for PSMA-negative disease – 2019 ongoing
  - ↳ \$1.8 million Medical Research Future Fund (MRFF) grant for the TarGeted Therapy and Avelumab in Merkel Cell Carcinoma (GoTHAM) Trial – 2018 ongoing.
- Ongoing support for Herston Imaging Research Facility projects.





## Supervised Post-Graduate Research Students

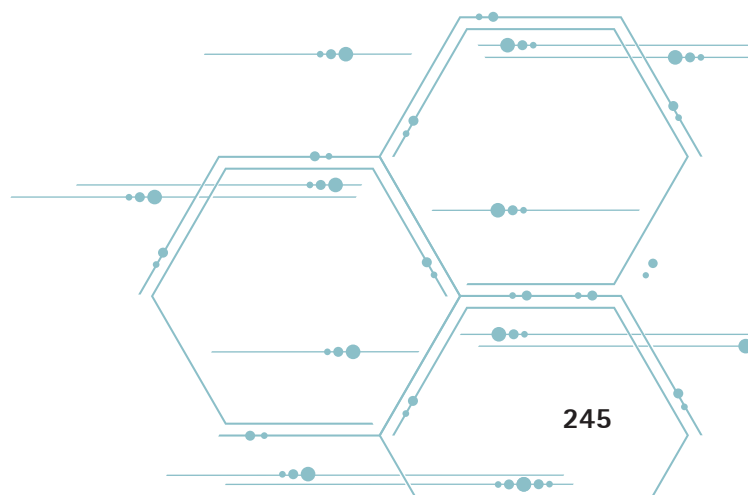
Name <i>(RBWH staff in bold)</i>	Current Studies <i>(e.g. PhD, Masters etc.)</i> University <i>(duration)</i>	Research Project Title	Supervisors <i>(RBWH staff in bold)</i>
<b>Dominique Scott</b>	MPhil UQ (PT 2017-)	New radiopharmaceutical methodology for PET imaging	<b>Melissa Latter</b> , Kristofer Thurecht
<b>Brenda Tai</b>	MPhil UQ (PT 2018-)	PET radiopharmaceuticals as molecular imaging tools for improved clinical outcome	<b>Melissa Latter</b> , Kristofer Thurecht
Rahul Ladwa	MPhil UQ (PT 2017-)	Predictors of dosimetry and response to peptide receptor radionuclide therapy in metastatic neuroendocrine tumour	<b>David Wyld</b> , <b>David Pattison</b> , Stephen Rose
<b>Simon Ryder</b>	MPhil UQ (PT 2019-)	State-of-the-art imaging and genetic testing for pheochromocytomas and paragangliomas: The Royal Brisbane experience	<b>David Pattison</b> , <b>Emma Duncan</b>

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Dr Jye Smith</b>	Adjunct lecturer	1.0	In-Kind Funded	Faculty of Medicine	UQ (2009-current)
<b>Dr Marissa Bartlett</b>	Adjunct lecturer	1.0	In-Kind Funded	Faculty of Medicine	UQ (2010-current)
<b>Dr Melissa Latter</b>	Honorary Research Fellow	1.0	In-Kind Funded	Faculty of Medicine	UQ (2014-current)
<b>A/Prof David Pattison</b>	Associate Professor	1.0	In-Kind Funded	Faculty of Medicine	UQ (2018-current)
<b>A/Prof Paul Thomas</b>	Associate Professor	1.0	In-Kind Funded	Faculty of Medicine	UQ (2014-current)
<b>A/Prof Stuart Ramsay</b>	Associate Professor	1.0	In-Kind Funded	Medicine	JCU (2013-current)
<b>Dr Melissa Latter</b>	Partner Investigator	0.2	In-Kind Funded	ARC Centre for Innovation in Biomedical Imaging Technology	UQ (2018-current)

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>David Pattison</b>	<b>Paul Thomas</b> , <b>Stuart Ramsay</b> , Brook Gulhane, <b>Maciej Debowski</b>	[ <sup>18</sup> F] FPSMA-1007 vs [ <sup>68</sup> Ga] Ga-PSMA-11 trial
<b>Manoj Bhatt</b>	<b>David Pattison</b> , <b>David Wyld</b> , <b>Kevin Lee</b> , <b>Matthew Burge</b>	[ <sup>68</sup> Ga] Ga-DOTA=TATE PET/MRI
<b>Jye Smith</b>	<b>Matthew Griffiths</b> , <b>Paul Thomas</b>	PSMA Salivary Gland Vasoconstriction



## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Rahul Ladwa	<b>David Pattison, David Wyld, Matthew Burge</b> , Nicholas Dowson, Stephen Rose, <b>Jye Smith, Stephen Goodman</b> , Steven Williams	Predictors of dosimetry and response to peptide receptor radionuclide therapy
Ashleigh Scott	<b>Glen Kennedy</b> , Siok Tey, <b>David Pattison, Paul Thomas</b>	Pilot study of <sup>18</sup> FGE-180-PET to assess acute gastrointestinal graft versus host disease
Jeffrey Goh, David Pattison	<b>Stuart Ramsay, Kevin Lee, Paul Thomas, Patrina Campbell, Melissa Latter</b>	TheraP trial. LuPSMA study (RBWH pilot study and ANZUP trial)
David Wyld	<b>David Pattison, Kevin Lee, Manoj Bhatt, Stuart Ramsay</b>	CONTROLNETS

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Brittany Robinson</b>	Technologist Best Abstract Award	Society of Nuclear Medicine and Molecular Imaging (SNMMI)

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Sandhu S, Scolyer R, Atkinson V, Poulsen M, Emmett L, Tothill R, Neeson P, <b>Pattison DA</b> , Guminski A	Dept of Nuclear Med Specialised PET Services, RBWH	TarGeted Therapy and Avelumab in Merkel Cell Carcinoma (GoTHAM) Trial	MRFF – Low Survival Cancers and Diseases	\$1,800,000	\$360,000	2018-2022
Hooper J, <b>Thomas P</b> , Snell C, Rose S, Cuda T	2019 Brisbane Colorectal Theranostics Collaboration	Development of Theranostics for Metastatic Colorectal Cancer Using High Affinity Engineered Antibody Fragments	Brisbane Diamantina Health Partners Cancer Theme Grant	\$17,500	\$17,500	2019
Azad A, Hofman M, Murphy D, Vela I, Risbridger G, Taylor R, Trapani J, Sandhu S, Williams S, Violet J, Lawrentschuk N, <b>Pattison DA</b> , Francis R	Dept of Nuclear Med Specialised PET Services, RBWH	“Up-Front PSMA” Alliance: Using Theranostics Early to Eradicate Prostate Cancer and Developing Novel Strategies for PSMA-negative disease	Prostate Cancer Research Alliance Grant (Movember/ Cancer Australia)	\$4,000,000	\$1,000,000	2019-2022



## 2019 Research Publications

### Journal Articles

1. **Pattison DA**, MacFarlane LL, Callahan J, Kane EL, Akhurst T, Hicks RJ. Personalised insulin calculator enables safe and effective correction of hyperglycaemia prior to FDG PET/CT. *EJNMMI Res* 2019; 9: 15. doi: 10.1186/s13550-019-0480-2
2. Shaw TB, **Jeffree RL**, **Thomas P**, **Goodman S**, **Debowski M**, **Lwin Z**, **Chua B**. Diagnostic performance of 18F-fluorodeoxyglucose positron emission tomography in the evaluation of glioma. *J Med Imaging Radiat Oncol.* 2019; 63:650-656. doi: 10.1111/1754-9485.12929. PMID: 31368665
3. Violet J, Sandhu S, Iravani A, Ferdinandus J, Thang SP, Kong G, Ravi Kumar A, Akhurst T, **Pattison DA**, Beulieu Am Mooi J, Guo C, Kalff V, Murphy DG, Eu P, Scalzo M, Williams S, Hicks RJ, Hofman MS. Long term follow-up and outcomes of re-treatment in an expanded 50 patient single-center phase II prospective trial of Lutetium-177 (<sup>177</sup>Lu) PSMA-617 theranostics in metastatic castrate-resistant prostate cancer. *Journal of Nuclear Medicine* 2019; [Epub ahead of print]
4. Iravani A, Solomon B, **Pattison DA**, Jackson P, Ravi Kumar A, Kong G, Hofman MS, Akhurst T, Hicks RJ. Mitogen-Activated Protein Kinase Pathway Inhibition for Redifferentiation of Radioiodine Refractory Differentiated Thyroid Cancer: An Evolving Protocol. *Thyroid* 2019; 29: 1634-1645
5. Weber N, Thirunavukarasu CE, **Kyle S**, **Gray S**, **Morris K**, Scott A, **Butler JP**, Tey S, **Curley C**, **Kennedy G**, **Thomas P**. CXCR4 positron emission tomography for the detection of bone disease in newly diagnosed myeloma. *International Myeloma Workshop, Boston.* 2019
6. **Paxton-Hall F**, You K, **Pattison DA**, **Burge M**, **Wyld D**. Outcome and toxicity of salvage therapy with <sup>177</sup>Lu-DOTATATE in patients with metastatic neuroendocrine tumours. *AGITG Annual Scientific Meeting* 2019
7. Ladwa R, **Pattison DA**, **Smith J**, **Goodman S**, **Burge M**, Rose S, Dowson N, **Wyld D**. The impact of tumour absorbed dosimetry with survival outcomes after peptide receptor radionuclide therapy in metastatic neuroendocrine tumours. *European Society for Medical Oncology Congress* 2019
8. **Debowski M**, Gulhane B, **Ramsay SC**, **Thomas PA**, **Garcia P**, **Latter M**, **Tapper S**, **Pattison DA**. A prospective intra-individual blinded comparison of <sup>18</sup>F-PSMA-1007 and <sup>68</sup>Ga-PSMA-11 PET imaging in patients with confirmed prostate cancer. *Australian & New Zealand Society of Nuclear Medicine Annual Scientific Meeting* 2019.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

1. **Pattison DA**. Iodine PET scans. 8<sup>th</sup> Multidisciplinary Update on Thyroid & Parathyroid Surgery (Noosa) 2019
2. **Pattison DA**. FDOPA for Medullary Thyroid Carcinoma. 8<sup>th</sup> Multidisciplinary Update on Thyroid & Parathyroid Surgery (Noosa) 2019
3. **Pattison DA**. Theranostics for castrate resistant prostate cancer. *Urological Society of Australia and New Zealand Annual Scientific Meeting (Brisbane)* 2019
4. **Pattison DA**. How do we interpret / use PSMA PET in the monitoring of advanced prostate cancer? *Urological Society of Australia and New Zealand Annual Scientific Meeting (Brisbane)* 2019
5. **Pattison DA**. Functional imaging and therapy for endocrine tumours. *Endocrine Society of Australia Seminar Weekend (Perth)* 2019
6. **Pattison DA**. Molecular imaging for endocrine tumours. *Endocrine Society of Australia Annual Scientific Meeting (Sydney)* 2019
7. **Pattison DA**. PSMA PET tracers: Who's who in the zoo? *Australia & New Zealand Society of Nuclear Medicine Scientific Meeting (Adelaide)* 2019
8. **Pattison DA**. Emerging role of I-124 PET for thyroid cancer theranostics. *Australia & New Zealand Society of Nuclear Medicine Scientific Meeting (Adelaide)* 2019.

### Oral Presentations

1. **Scott, D**. <sup>68</sup>Ga-Exendin-4 labelling: validation and QC for clinical use. *Radiopharmaceutical Science Symposium* 2019. Brisbane
2. **Lummis S**, **Latter, M.J**. Theranostic PMSA Radiopharmaceuticals – clinical radiopharmaceutical experience at Q-TRaCE. *Radiopharmaceutical Science Symposium* 2019. Brisbane
3. **Scott D**, **Latter M.J.**, Kristofer Thurecht, K. Clinical Production and Quality Control Testing of [<sup>68</sup>Ga] Gallium-Exendin-4 for the Localisation and Detection of Insulinomas at the Royal Brisbane and Women's Hospital. *27<sup>th</sup> Royal Australian Chemical Institute R&D Topics Symposium* 2019. Adelaide
4. **Lummis S**, **Latter M.J**, **Scott D**, **Tapper S**. Comparison of [<sup>18</sup>F]-PSMA-1007 and [<sup>68</sup>Ga]-PSMA-11 Radiopharmaceutical Production at Q-TRaCE. *1Q-TRaCE, Royal Brisbane and Women's Hospital*
5. **Tai, CH**. Optimisation of High Activity Automated Manufacture of [<sup>68</sup>Ga] Ga-DOTA-TATE. *Annual Scientific Meeting of the Australian and New Zealand Society of Nuclear Medicine.* Adelaide, Australia April 2019.

## Other communications and outputs:

**Pattison DA**. Play for a Cure Research fundraiser presentation (Brisbane)

**Pattison DA**. 'Theranostics: A new weapon in the fight against prostate cancer' – Prostate Cancer Foundation of Australia Fundraiser (Brisbane).

# PALLIATIVE & SUPPORTIVE CARE

Research highlights for 2019 for the department include presentation of the initial collaborative work with hepatology. The Metro North Kidney Supportive Care service continues to thrive with publication by the team pharmacist this year. Dr Bill Lukin was successful in publishing his work comparing methadone conversion techniques and has presented these findings at many local forums.

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Dr Carol Douglas</b>		The Care of the Dying Evaluation (CODE) Project: A survey of bereaved persons in an Australian acute care setting
<b>Prof Janet Hardy</b>	<b>Dr Alison Kearney</b>	Oral Medicinal Cannabinoids to Relieve Symptom Burden in the palliative care of patients with advanced cancer; a double blinded, placebo controlled RCT of efficacy and safety
<b>Pharmacy/Oncology/Palliative Care</b>	<b>Mika Varitimos, Neil Cottrell, Alison Kearney, Melissa Eastgate, Catherine Bettington</b>	Ref HREC/18/QRBW/180: Investigating patient perceptions towards medicine burden in palliative oncology patients

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Prof David Curirow, Palliative Care Clinical Studies Collaborative	<b>Alison Kearney, Carol Douglas</b>	Rapid Pharmacovigilance in Palliative Care

## 2019 Research Publications

### Journal Articles

- Scuderi C, Berquier I, Purtell L, Bonner A, Douglas C, Healy H.** Complex prescribing in chronic kidney disease: role of the renal pharmacist in kidney supportive care in uncovering hydralazine-related lupus, *Journal of Pharmacy Practise and Research* (2019) 49, 364-367
- Lukin W, Greenslade J, Kearney A, Douglas C, Howell T, Barras M, Good P.** Conversion of other opioids to methadone a retrospective comparison of two methods *BMJ Supportive & Palliative Care* Published Online First: 16 February 2019. doi: 10.1136/bmjspcare-2018-001645.

## Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

- Kearney A.** CPCRE research conference, RBWH – "Hepatocare, a novel model of care for advanced liver disease" 24<sup>th</sup> July
- Douglas C.** ICU Palliative Care interface – IAPCON Kochi 9/2
- Douglas C.** Giving Voice to the Bereaved – evaluation of 'CODE' Care at EOL workshop 22/3
- Douglas C.** Supportive Care in ESRD – Aust.Nephrology trainees meeting 6/7
- Kearney A.** PCOC Using Evidence on patient outcomes to improve the future of palliative care, 20<sup>th</sup> Nov Sydney "Hepatocare: a novel model of care".

# PHARMACY

Practice based, translational research is now a core component of the outputs of the pharmacy department and we have continued to undertake high quality research throughout 2019. We continue our strong links with academia including The University of Queensland, School of Pharmacy and Faculty of Medicine; Queensland University of Technology School of Pharmacy.

Seventy journal articles, nine oral and 41 poster presentations were associated with nine HDR pharmacy staff undertaking HDRs and 24 other medical, pharmacy and nursing students supervised by and collaborating with RBWH senior researchers.

Areas of research include pharmacist led therapeutic drug monitoring service, effective management of mucositis in bone marrow transplants, impact of a pharmacist in high risk discharge patients

We continue to attract HDR students enrolled in PhDs and MPhils collaborating across nursing, medicine and allied health.

Pharmacy staff continue to present their research locally, nationally and internationally at pharmacy, nursing, medical and multi-professional meetings.

## 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>Elizabeth Doran</b>	PhD (2018-2022)	The Role of the Emergency Department Pharmacist (EDP) in the Management of Drug Toxicities	<b>Karen Whitfield, Ian Coombes</b>
Karen Bettenay	PhD QUT (2018-)	An evaluation of allied health prescribing in Queensland and development of non-medical prescribing implementation and evaluation frameworks	<b>Andrew Hale</b>
Jason Waddell	PhD QUT (2018-)	An investigation into the personality characteristics of Australian Pharmacists	<b>Andrew Hale</b>
Monika Ogilvie	MPhil QUT (2018-)	Pharmacist prescribing in the Emergency Department	Lisa Nissen, Greg Kyle, <b>Andrew Hale</b>
Penelope Richards	MPhil QUT (2018-)	An Assessment of Pharmacist prescribing in an Elective Surgery Pre Admission Clinic	Lisa Nissen, Greg Kyle, <b>Andrew Hale</b>
<b>Lisa Allard</b>	Diploma in Clinical Pharmacy, UTAS		Dr Mohammed Salahudeen
<b>Kathryn Hurree</b>	MPhil (2017-2019)	Investigation of Impact of a pharmacist in palliative Care Clinics	<b>Karen Whitfield</b>
<b>Karen Davies</b>	PhD, UQ (2018-2020)	Medication administration evaluation and feedback tool	<b>Karen Whitfield, Ian Coombes, Samantha Keogh</b>
Yasakalum Bagyanantha	MPhil	Evaluation of the role of clinical pharmacy in quality of care for acute coronary syndrome	<b>Ian Coombes, Mohamed Fahim, I Garamana</b>
<b>Caitlin Lock</b>	MPhil QUT	Evaluation of Emergency Medicine Pharmacist review and its impact on hospital length of stay of older medical patients	<b>Ian Coombes, Sonya Osborne</b>
<b>Angela North</b>	MPhil, UQ (2015-2019)	Investigation of Therapeutic Heparin in the peri partum period	<b>Karen Whitfield, Karin Lust, Helen Barrett</b>
E Tanvir	PhD, UQ (2018-2021)	To investigate trace element levels in blood in the neonatal population	<b>Karen Whitfield, Nick Shaw</b>
<b>Midori Nagakai</b>	PhD, UQ (2018-2022)	To investigate management of oral mucositis prevention in patients undergoing haematopoietic stem cell transplantation (HSCT)	<b>Karen Whitfield, Glen Kennedy, Alexandra Clavarino</b>

## Supervised Post-Graduate Research Students *(cont)*

<b>Name</b> <i>(RBWH staff in bold)</i>	<b>Current Studies</b> <i>(e.g. PhD, Masters etc.)</i> <b>University</b> <i>(duration)</i>	<b>Research Project Title</b>	<b>Supervisors</b> <i>(RBWH staff in bold)</i>
<b>Paul Firman</b>	PHD, UQ <i>(2017-)</i>	Pharmacist Led Therapeutic Drug Monitoring	<b>Karen Whitfield</b> , Ken Tan, Alexandra Clavarino
<b>Kim Ta</b>	PhD, QUT <i>(2019-)</i>	Evaluation of Pharmacist administered Influenza Vaccination in high-risk Hospital Outpatients	Lisa Nissen, <b>Andrew Hale</b> , Esther Lau
Dr Alexis Tabah	PhD, UQ <i>(2018-)</i>	The value of antibiotic de-escalation strategies in critically ill patients	<b>Jason Roberts</b> <i>(Co-supervisor)</i>
Dr Sazlyna Lim	PhD, UQ <i>(2018-)</i>	Optimising antibiotic treatment for infections caused by multi-drug resistant Acinetobacter baumannii	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Kamrul Islam	PhD, UQ <i>2018-(confirmed)</i>	Optimising antibiotic treatment for infections caused by extended spectrum beta-lactamase producing Escherichia coli	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Aun Raza	PhD, UQ <i>(2018-)</i>	Nanoformulation to improve bioavailability of key drugs	<b>Jason Roberts</b> <i>(Co-supervisor)</i>
Saiyuri Naicker	PhD, UQ <i>(2017-)</i>	The effects of antibiotic de-escalation of emergence on antibiotic resistance	<b>Jason Roberts</b> <i>(Co-supervisor)</i>
Eko Setiawin	PhD, UQ <i>(2017-)</i>	Optimising antibiotic dosing for hospitalised patients in Indonesia	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Dr Helmi Sulaiman	PhD, The University of Malaya <i>(2017-)</i>	Optimising antibiotic dosing for treatment of severe lung infections	<b>Jason Roberts</b> <i>(Associate supervisor)</i>
Dr Chris Anstey	PhD, UQ <i>2017-(confirmed)</i>	The kinetics of citrate during continuous renal replacement therapy in critically ill patients	<b>Jason Roberts</b> <i>(Associate supervisor)</i>
Dr Andrew Burke	PhD, UQ <i>2017-(confirmed)</i>	Optimising dosing of antibiotics for treatment of mycobacterial infections	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Paul Williams	PhD, UQ <i>2017-(confirmed)</i>	Establishing an evidence-base for practical dosing of antibiotics in critically ill patients	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Chandra Sumi	PhD, UQ <i>2017-(confirmed)</i>	Quantifying differences between continuous versus extended versus intermittent infusion of beta-lactam antibiotics versus Klebsiella pneumoniae and Escherichia coli	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Vesa Cheng	PhD, UQ <i>2017-(confirmed)</i>	Developing optimised antibiotic dosing for critically ill patients receiving extracorporeal membrane oxygenation	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Dr Rochelle Ryan	PhD, UQ <i>2017-(confirmed)</i>	Developing optimised dosing of antibiotics to be used for peri-operative prophylaxis of infection	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
Aaron Heffernan	PhD, Griffith University <i>2017-(confirmed)</i>	Characterisation of the effect of nebulised amikacin versus intravenous dosing for treatment of ventilator associated pneumonia	<b>Jason Roberts</b> <i>(Co-supervisor)</i>
Paul Jarrett	PhD, QUT <i>2016-(confirmed)</i>	Optimising nursing practices for administration of antibiotics to critically ill patients	<b>Jason Roberts</b> <i>(External Supervisor)</i>
Yarmarly Guerra Valero	PhD, UQ <i>2016-(confirmed)</i>	Development of novel sampling and bioanalysis methods for study pharmacokinetics in infants and children	<b>Jason Roberts</b> <i>(Co-supervisor)</i>
Dr Tavey Dorofaeff	PhD, UQ <i>2016-(confirmed)</i>	Optimisation of antibiotic dosing in critically ill infants and children	<b>Jason Roberts</b> <i>(Co-supervisor)</i>
Caleb Economou	MPhil, UQ <i>2011-(confirmed)</i>	Antibiotic dosing during renal replacement therapy in critically ill patients	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
<b>Dr Gloria Wong</b>	MPhil, UQ <i>2011-2019</i>	Therapeutic drug monitoring of beta-lactam antibiotics in critically ill patients	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
<b>Dr Angela Tognolini</b>	MPhil, UQ <i>2018-</i>	Optimising dosing of lignocaine in obese and non-obese patients	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
<b>William Franks</b>	MPhil, UQ <i>2017-</i>	Optimising antifungal dosing in transplant recipients	<b>Jason Roberts</b> <i>(Primary supervisor)</i>
<b>Bryan Gregory</b>	MPhil, QUT <i>2016-(confirmed)</i>	Optimised dosing of immunosuppressant drugs in critically ill patients receiving renal replacement therapy	<b>Jason Roberts</b> <i>(Co-supervisor)</i>





### RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/ external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Ian Coombes</b>	Adjunct Associate Professor				University of Queensland
<b>Andrew Hale</b>	Adjunct Associate Professor		Nil		Queensland University of Technology
<b>Jason Roberts</b>	NHMRC Practitioner	0.7	NHMRC	Optimising antibiotic dosing to improve patient outcomes and suppress emergence of resistant superbugs	University of Queensland
<b>Andrew Hale</b>	Adjunct Senior Lecturer		Nil		Queensland University of Technology
<b>Karen Whitfield</b>	Adjunct Associate Professor	0.2	UQ School of Pharmacy		University of Queensland

### Honorary Positions: e.g. Non-RBWH staff with research appointments at RBWH

Name	Position	FTE	Research Program	Affiliated University/ies
John Smith	Honorary Research Fellow	0.6	Development and evaluation of a tailored fatigue self-management behavioural intervention for patients with advanced cancer	Queensland University of Technology
Christopher Collins	Honorary Research Fellow	0.8	Improving quality of Food Services	Senior Lecturer, Queensland University of Technology

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

RBWH Research Group/Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>Nathan Brown</b>	<b>Elizabeth Doran (ETC), Jaimi Greenslade (ETC), Bill Lukin (ETC), Neil Cottrell (UQ), Fabian Jaramillo, Ian Coombes (Pharmacy), Peter Donovan (Clinical Pharmacology), Louise Cullen (ETC)</b>	The prevalence and characteristics of emergency department presentations due to medication-related events
<b>Karen Whitfield</b>		Teaching on the run for Pharmacy Technicians
<b>Nicholas Ah Yui</b>	Lily Hatt, William Franks	Compliance to Vancomycin Procedures at the Royal
<b>Andrew Hale, Kim Ta</b>	Lisa Nissen, Esther Lau, <b>Krispin Hajkowicz, Ian Coombes, Liza-Jane McBride</b>	Evaluation of Pharmacist administered Influenza Vaccination in high-risk Hospital Outpatients

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

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Prof Shaw UQ	<b>Karen Whitfield</b>	Milk Bank Nutrition

## Research Awards and Achievements

Recipient <i>(RBWH staff in bold)</i>	Award	Event
<b>Kim Ta, Krispin Hajkowicz, Andrew Redmond, Peter Groom, Jenna Turkington, Emily Hallas</b>	Best consumer focus award	2019 QuARRIE Awards
<b>Kim Ta, Krispin Hajkowicz, Andrew Redmond, Peter Groom, Jenna Turkington, Emily Hallas</b>	Overall Superior Quality Achiever	2019 QuARRIE Awards
<b>Kim Ta</b>	Best Oral presentation	2019 SHPA Research Symposium

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Dhanani J, <b>Roberts JA</b> , Wallis SC, <b>Bell S</b> , Reade M, <b>Eley V</b>	University of Queensland	"Establishing UQ Centre for Clinical Research as the centre for Aerosol therapy in critical care by optimising particle size of aerosols for effective drug delivery"	Major Equipment and Infrastructure and NHMRC Equipment Grant	\$138,660	\$138,660	2019
<b>Roberts JA</b>		Continuous infusion versus intermittent dosing: does the mode of beta-lactam antibiotic administration or drug exposure define patient outcomes?	Australian Infectious Diseases Research Excellence Award	\$50,000	\$50,000	2019
Ankravs M, Deane A, Bellomo R, Udy A, <b>Roberts JA</b>		National Translational Research Collaborative Research Proposal	Society of Hospital Pharmacists of Australia	\$30,000	\$30,000	2019
Davies M, Irwin A, Parker S, <b>Roberts JA</b>		Optimising the treatment of invasive infection in critically ill neonates, through application of an innovative microsampling approach	Royal Brisbane and Women's Hospital Research Foundation	\$38,081	\$19,040	2018-2019
Karamujic N, Roberts JA		Pharmacokinetic and statistical analysis of data from Screening Anti-Fungal Exposure in Intensive Care Units (SAFE-ICU) study	Royal Brisbane and Women's Hospital Research Foundation	\$40,000	\$20,000	2018-2019
Woods M, Harris P, Whiley D, Roberts JA, <b>Lipman J, Hajkowicz K, Redmond A</b>		Rapid detection of resistance genes from gram negative bacteria isolated from blood in ICU-admitted patients to enable timely and effective treatment	Royal Brisbane and Women's Hospital Research Foundation	\$40,000	\$20,000	2018-2019
Wainwright C, Bell SC, Wason J, Thomson R, <b>Roberts JA</b> , Coin L, Byrnes J, Tiddens H, Grimwood K, Ahern S		A platform clinical trial approach to the management of Mycobacterium abscessus complex	Medical Research Futures Fund Lifting Clinical Trials and Registries Capacity (LCTRC) grant	\$2,091,178	\$418,236	2018-2022
<b>Roberts JA</b> , Ivanovski S, Sime FS, Lee R	The University of Queensland	Maximising the outcomes of antibiotic therapy in the management of gum disease caused by a community of multi-species bacteria	2019 Faculty of Health and Behavioural Sciences Research Collaboration Seeding Grant	\$39,156	\$39,156	2019
<b>Roberts JA</b> , Luque S, Zeitlinger M, Sime F		Screening anti-fungal exposure in intensive care unit: The SAFE-ICU study	European Society of Clinical Microbiology and Infectious Diseases (ESCMID) Study Group Research Grants	\$47,200	\$47,200	2019
<b>Roberts JA, Lipman J</b> , Paterson DL, Harris P, Kruger P, Dorofaeff T, Schlapbach L, Beatson S, Schembri M		Reducing time to appropriate antibiotics and optimal doses to treat sepsis using rapid whole genome sequencing combined with dosing software	MRFF Rapid Applied Research Translation Program Grant	\$250,829	\$125,415	2019-2020

## Research Grants (cont)

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Nakagaki, M, Glen Kennedy, Jenni Leutenegger, Cameron Curley, Michael Smith, Therese Hays, Annette Barnes, Angela McLean, Caroline Stewart, Teresa Brown, Rebecca Fichero Leonie Naumann Angela O'Malia, Ian Coombes, Karen Whitfield</b>		Implementation and Evaluation of a Nurse- Allied Health Multidisciplinary Post-Bone Marrow Transplant Clinic	SEED	\$81,150	\$81,150	2019
<b>Roberts JA, Lipman J,</b> De Waele J, Kourenti D		Novel dosing regimens to maximise antibiotic effectiveness for treatment of pneumonia in the intensive care unit	NHMRC Project Grant (APP1162281)	\$203,850	\$815,403	2019-2022
<b>Midori Nakagaki</b>	Pharmacy	Oral Mucositis Management in BMT patients	RBWH Foundation Scholarship	\$38,082	\$38,082	2019
<b>Karen Davies</b>	Pharmacy	Medication administration evaluation and feedback tool	RBWH Foundation Scholarship	\$38,082	\$38,082	2019
<b>Tognolini A,</b> Jackson D, <b>Roberts JA, Eley V</b>		Intraoperative lignocaine infusions: Development of an optimised infusion dosing regimen for obese patients	Australian and New Zealand College of Anaesthetists Project Grant	\$22,500	\$22,500	2019
<b>Roberts JA, Lipman J,</b> Cotta MO, Kruger P, Schlapbach L, Irwin A, Shekar K, Comans T, Paterson DL, Harris P, Ungerer J, McWhinney B		Personalising Antibiotic Therapy to Improve Outcomes in Patients with Severe Infections	MRFF Rapid Applied Research Translation Program Grant	\$332,868	\$166,434	2019-2020

## 2019 Research Publications

### Journal Articles

- Wan W, Guerra Valero Y, Choi GYS, Ordóñez Mejia J, Wallis SC, Joynt GM, **Lipman J**, Gomersall CD, **Roberts JA**. In-vitro absorption and sieving coefficient of ticarcillin-clavulanate during continuous haemofiltration. *Int J Antimicrob Agents* 2019; 54(2):261-264
- Dhanani JA**, Diab S, Chaudhary J, Cohen J, Parker SL, Wallis SC, Boidin C, Barnett A, Chew M, **Roberts JA**, Fraser JF. Lung pharmacokinetics of tobramycin by intravenous and nebulized dosing in a mechanically ventilated healthy ovine model. *Anesthesiology* 2019; 131(2):344-355
- Guerra Valero Y, **Roberts JA, Lipman J**, Fourie C, Starr T, Wallis SC, Parker SL. Analysis of capillary microsamples obtained from a skin-prick to measure vancomycin concentrations as a valid alternative to conventional sampling: a bridging study. *J Pharmaceut Biomed Anal* 2019; 169: 288-92
- Zhang P, Curley C, Mudie K, **Nakagaki M**, Hill G, **Roberts JA**, Tey SK. Effect of plasmapheresis on ATG (Thymoglobulin) clearance prior to adoptive T cell transfer. *Bone Marrow Transplantation* 2019; 54(12):2110-2116
- Cheng V, Matthew DM Rawlins M, Chang T, Fox E, Dyer J, Allen C, Litton E, Page M, Hoad K, **Roberts JA**. Pharmacokinetics of benzylpenicillin (penicillin G) during prolonged intermittent renal replacement therapy. *Chemotherapy* 2019; 64(1):17-21
- Weber N, Jackson K, McWhinney B, Ungerer J, Kennedy G, **Lipman J, Roberts JA**. Evaluation of pharmacokinetic/pharmacodynamic and clinical outcomes with 6-hourly empiric piperacillin-tazobactam dosing in hematological malignancy patients with febrile neutropenia. *J Infect Chemother* 2019; 25(7):503-508
- Schetz M, De Jong A, Deane AM, Druml W, Hemelaar P, Pelosi P, Pikkers P, Reitham Blaser A, **Roberts JA**, Sakr Y, Jaber S. Obesity in the critically ill: a narrative review. *Intensive Care Med* 2019; in press (date accepted 4<sup>th</sup> March 2019; ICME-D-19-00072R1)
- Sazly Lim SM, Sime FB, **Roberts JA**. Multidrug-resistant *Acinetobacter baumannii* infections: current evidence on treatment options and role of PK/PD in dose optimization. *Int J Antimicrob Agents* 2019; 53(6):726-745
- Dimopoulos G, Kourenti D, Parker SL, **Roberts JA**, Poulakou G. Intravenous fosfomycin for the treatment of multidrug resistant pathogens: what is the evidence on dosing regimens? *Exp Rev Anti-infect Ther* 2019; 17(3):201-210
- Raza A, Sime FB, Cabot PJ, **Roberts JA**, Falconer JR. Solid nanoparticles for oral delivery of antimicrobials: A review. *Drug Discovery Today* 2019; 24(3):858-866
- Lipman J**, Brett SJ, DeWaele JJ, Cotta MO, David JS, Finfer S, Glass P, Knowles S, McGuinness S, Myburgh J, Paterson DL, Peake SL, Rajbhandari D, Rhodes A, **Roberts JA**, Shirwadkar C, Starr T, Taylor C, Billot L, Dulhunty JM. A protocol for a Phase 3 multicentre randomised controlled trial of continuous versus intermittent beta-lactam antibiotic infusion in critically ill patients with sepsis: the BLING III trial. *Crit Care Resus* 2019; 21(1):63-68

## Journal Articles (cont)

12. **Roberts JA**, Roger C, De Waele J. Personalized antibiotic dosing for the critically ill. *Intensive Care Med* 2019; 45(5): 715-8
13. **Davies KM, Coombes ID**, Keogh S, **Whitfield KM**. Medication administration evaluation tool design: An expert panel review. *Collegian* <https://doi.org/10.1016/j.colegn.2018.05.001>
14. Bullock B, Whitty, JA, **Mitchell C, Donovan P, Coombes I**. The impact of a pharmacist on post-take ward round prescribing and medication appropriateness. In *J Clinical Pharmacy* <https://doi.org/10.1007/s11096-018-0775-9>
15. Welch S, Currey E, **Doran E**, Harding A, Roman C, Taylor S, Thomas A, Munro C Standard of practice in emergency medicine for pharmacy services. *Journal of Pharmacy Practice & Research*
16. **Doran E**. Carbamazepine toxicity & refractory seizures. *Toxicology Communications* 2019, 3:1, 47-53, DOI: 10.1080/ 24734306.2019.1625179
17. **North A, Barrett H, Lust K, Whitfield K**. Therapeutic anticoagulation during the postnatal peripartum period: a survey of clinical practice. *Journal of Pharmacy Practice and Research (JPPR)* 09/07/2019
18. **Risetto T, Trenerry H, Madan A**. Medicinal Mishap: The perils of antiepileptic toxicity. *Australian Prescriber* article
19. **Davies KM, Coombes I**, Keogh S, Hay K, **Whitfield KM**. (2019). Medication Administration Evaluation and Feedback Tool: Inter-rater Reliability in the Clinical Setting. *Submitted to Journal of Clinical Nursing*, 23 May 2019
20. **Davies KM, Coombes I**, Keogh S, Hay K, Hurst C, **Whitfield KM**. (2019) Medication administration evaluation and feedback tool: Simulation reliability testing. *Clinical Simulation in Nursing*, 32 1-7. doi:10.1016/j.ecns.2019.03.010
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22. Breilh D, Honore PM, De Bels D, **Roberts JA**, Gordien JB, Fleureau C, Dewitte A, Coquin J, Rozé H, Perez P, Attou R, Redant S, Kugener L, Saux MC, Spapen HD, Ouattara A, Joannes-Boyau O. on behalf of the IVOIRE study group. Pharmacokinetics and pharmacodynamics of anti-infective agents during continuous veno-venous hemofiltration in critically ill patients: Lessons learned from an ancillary study of the IVOIRE trial. *J Translational Med* 2019; 7(4): in press
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25. Tabah A, Bassetti M, Kollef MH, Zahar JR, Paiva JA, Timsit JF, **Roberts JA**, Schouten J, Giamarellou H, Rello J, De Waele J, Shorr AF, Leone M, Poulakou G, Depudyt P, Garnarcho-Montero J. Antimicrobial de-escalation in critically ill patients: a position statement from a task force of the European Society of Intensive Care Medicine (ESICM) and European Society of Clinical Microbiology and Infectious Diseases (ESCMID) Critically Ill Patients Study Group (ESGCIIP). *Intensive Care Med* 2019; in press (date accepted 12<sup>th</sup> November 2019; ICME-D-19-01275R1)
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29. Lai T, Alffenaar JW, Kesson A, Bandodkar S, **Roberts JA**. Evaluation of target attainment of oral posaconazole suspension in immunocompromised children. *J Antimicrob Chemother* 2019; in press (date accepted 22<sup>nd</sup> October 2019; JAC-2019-1340.R1)
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## Journal Articles (cont)

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37. Boidin C, Bourguignon L, Cohen C, Roger C, Lefrant JY, **Roberts JA**, Allaouchiche B, Lepape A, Friggeri A, Goutelle S. Amikacin initial dose in critically ill patients: a nonparametric approach to optimize PK/PD target attainments in individual patients. *Antimicrob Agents Chemother* 2019; 63(11) pii: e00993-19
38. Dhaese S, Colin P, Willems H, Heffernan A, Gadeyne B, Van Vooren S, Depuydt P, Hoste E, Stove V, Verstraete AG, Lipman J, **Roberts JA**, De Waele JJ. Saturable elimination of piperacillin in critically ill patients: implications for continuous infusion. *Int J Antimicrob Agents* 2019 in press; (dte accepted 27<sup>th</sup> August 2019; IJAA-D-19-00481R1)
39. Kanji S, **Roberts JA**, Xie J, Zelenitsky S, Hiremath S, Zhang G, Watpool I, Porteous R, Patel R. Vancomycin population pharmacokinetics in critically ill adults during sustained low efficiency dialysis. *Clin Pharmacokinet* 2019; in press (date accepted August 21<sup>st</sup>, 2019; CPKA-D-19-00074R1)
40. Richter DC, Frey O, Röhr A, **Roberts JA**, Köberer A, Fuchs T, Papadimas N, Heinzel-Gutenbrunner M, Brenner T, Lichtenstern C, Weigand MA, Brinkmann A. Therapeutic drug monitoring-guided continuous infusion of Piperacillin/ Tazobactam significantly improves pharmacokinetic target-attainment in critically ill patients: a retrospective analysis of four years of clinical experience. *Infection* 2019; 47(6):1001-1011
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43. Sime FB, Byrne CJ, Parker S, Stuart J, Butler J, Starr T, Pandey S, Wallis SC, **Lipman J**, **Roberts JA**. Population pharmacokinetics of total and unbound concentrations of intravenous posaconazole in adult critically ill patients. *Crit Care* 2019; 23(1):205
44. Heffernan AJ, Germano A, Sime FB, **Roberts JA**, Kimura E. Vancomycin population pharmacokinetics for adult patients with sepsis or septic shock. Are current dosing regimens sufficient? *Eur J Clin Pharmacol* 2019; 75(9):1219-1226
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46. Ranganathan D, Abdul-Aziz MH, John GT, McWhinney BC, Fassett RG, Healy H, **Kubler P**, Lim A, **Lipman J**, Purvey M, Roberts M, Reyaldean R, Ungerer J, **Roberts JA**. Pharmacokinetics of Enteric Coated Mycophenolate Sodium in Lupus Nephritis (POEMSLUN). *Ther Drug Monit* 2019; 41(6):703-713
47. Dhaese SAM, Thooft ADJ, Farkas A, **Lipman J**, Verstraete AG, Stove V, **Roberts JA**, De Waele JJ. Early target attainment of continuous infusion piperacillin/tazobactam and meropenem in critically ill patients: A prospective observational study. *J Crit Care*. 2019; 52: 75-79
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50. **Roberts JA**, Alobaid AS, Wallis SC, Perner A, Lipman J, Sjövall F. Defining optimal dosing of ciprofloxacin in patients with septic shock. *J Antimicrob Chemother* 2019; 74(6):1662-1669
51. Tenorio-Cañamás T, Grau S, Luque S, Fortún J, Liaño F, **Roberts JA**. Pharmacokinetics of micafungin in critically-ill patients receiving continuous veno-venous hemodialysis with high cut-off membranes. *Ther Drug Monit* 2019; 41(3): 376-82
52. Gurunathan U, Parker SL, Maguire R, Ramdath D, Bijoor M, Wallis SC, **Roberts JA**. Population pharmacokinetics of periarticular ketorolac in adult patients undergoing total hip or total knee arthroplasty. *Anesth Analg* 2019; 129(3):701-708
53. Colin PJ, Allegaert K, Thomson AH, Touw DJ, Dolton M, de Hoog M, **Roberts JA**, Adane ED, Yamamoto Y, García MJ, Simon N, Taccone FS, Lo Y-L, Barcia E, Eleveld DJ. Vancomycin pharmacokinetics throughout life: results from a pooled population analysis and evaluation of current dosing recommendations. *Clin Pharmacokinet* 2018; 58(6):767-780
54. Dhanani JA, Parker SL, Lipman J, Wallis SC, Cohen J, Fraser J, Barnett A, Chew M, **Roberts JA**. Recovery rates of combination antibiotic therapy using in vitro microdialysis simulating in vivo conditions. *J Pharmaceut Anal* 2019; 8(6):407-412
55. Abraham J, Sinnollareddy M, Roberts MS, Williams P, Peake SL, Lipman J, **Roberts JA**. Plasma and interstitial fluid population pharmacokinetics of vancomycin in critically patients with sepsis. *Int J Antimicrob Agents* 2019; 53(2):137-142
56. Dhaese S, Farkas A, Colin P, Lipman J, Stove V, Verstraete A, **Roberts JA**, De Waele JJ. Population pharmacokinetics and evaluation of the predictive performance of pharmacokinetic models in critically ill patients receiving continuous infusion meropenem: a comparison of eight pharmacokinetic models. *J Antimicrob Chemother* 2019; 74(2):432-441
57. Abdul-Aziz MH, **Roberts JA**. Antibiotic dosing during extracorporeal membrane oxygenation – does the system matter? *Curr Opin Anesthesiol* 2019; 33(1):71-82
58. Leone M, **Roberts JA**, Bassetti M, Bougle A, Lavigne JP, Legrand M, Neely M, Paiva JA, Payen D, Rello J, Roger C, Sjövall F, Jung B. Update on antibiotic therapy in the intensive care unit: Report from the 2019 Nimes international symposium. *Anaesth Crit Care Pain Med* 2019; 38(6):647-656
59. Douville SE, Callaway LK, Amoako A, **Roberts JA**, Eley VA. Reducing post-caesarean delivery surgical site infections: a narrative review. *Int J Obstet Anesth* 2019; in press (date accepted 28<sup>th</sup> August 2019; IJOA\_2019\_265R2)
60. Williams P, Cotta MO, **Roberts JA**. PK/PD of Beta-lactams and Therapeutic Drug Monitoring: From Theory to Practical Issues in the ICU. *Semin Resp Crit Care Med* 2019; 40(4):476-487
61. Sumi CD, Heffernan AJ, Lipman J, **Roberts JA**, Sime FB. What antibiotic exposures are required to suppress the emergence of resistance for Gram-negative bacteria? A systematic review. *Clin Pharmacokinet* 2019; 58(11):1407-1443

## Journal Articles (cont)

62. Jager NGL, van Hest RM, Lipman J, **Roberts JA**, Cotta MO. Antibiotic exposure at the site of infection: principles and assessment of tissue penetration. *Exp Rev Clin Pharmacol* 2019; 12(7): 623-34
63. Schetz M, De Jong A, Deane AM, Druml W, Hemelaar P, Pelosi P, Pikkers P, Reitham Blaser A, **Roberts JA**, Sakr Y, Jaber S. Obesity in the critically ill: a narrative review. *Intensive Care Med* 2019; 45(6): 757-69
64. Cheng V, Abdul-Aziz MH, **Roberts JA**, Shekar K. Overcoming barriers to optimal drug dosing during ECMO in critically ill adult patients. *Exp Opin Drug Metab Toxicol* 2019; 15(2):103-112
65. Hagel S, Fiedler S, Andreas H, Brinkmann A, Frey O, Hoyer H, Schlattmann P, Kiehntopf M, **Roberts JA**, Pletz MW, TARGET Study Group. Therapeutic drug monitoring-based dose optimisation of piperacillin/tazobactam to improve outcome in patients with sepsis (TARGET): a prospective, multicenter, randomized controlled trial. *Trials* 2019; 20(1):330
66. 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* 2019; 58(2):263-270
67. Crass RL, Williams P, **Roberts JA**. The Challenge of Quantifying and Managing Pharmacokinetic Variability of Beta-lactams in the Critically Ill. *Anaesth Crit Care Pain Med* 2019; in press (date accepted 27<sup>th</sup> December 2019; ACCPM\_603)
68. Baptista JP, **Roberts JA**, Sousa E, Freitas R, Deveza N, Pimentel J. Attainment of therapeutic vancomycin level within the first 24 h: Author's response. *Crit Care* 2019; 23(1):354
69. Abdul-Aziz MH, Shekar K, **Roberts JA**. Antimicrobial therapy during ECMO – customised dosing with therapeutic drug monitoring: the way to go? *Anaesth Crit Care Pain Med* 2019; 38(5):451-453
70. Baptista JP, **Roberts JA**, Udy AA. Augmented Renal Clearance: A real phenomenon with an uncertain cause. *Anaesth Crit Care Pain Med* 2019; 38(4): 335-6.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Presentation Information

1. **Roberts JA**, “Should we be using prolonged infusions of beta-lactams now?” World Congress of Intensive Care 2019, Melbourne, Australia, October 2019
2. **Roberts JA**, “Personalised antibiotic dosing in critically ill patients” Chinese Critical Care Congress 2019, September 2019, Wuhan, China
3. **Roberts JA**, “Challenging breakpoints with supranormal dosing” Chinese Critical Care Congress 2019, September 2019, Wuhan, China
4. **Roberts JA**, “Antibiotic dosing during ECMO” Chinese Critical Care Congress 2019, September 2019, Wuhan, China
5. **Roberts JA**. “Therapeutic Drug Monitoring of Antibiotics – Standard of Care?” Sepsis Update 2019, 9<sup>th</sup> Annual Congress Sepsis and Multiorgan Dysfunction Syndrome, September 2019, Weimar, Germany
6. **Roberts JA**. “Why is Therapeutic Drug Monitoring required for Antibiotics in Sepsis?” Sepsis Update 2019, 9<sup>th</sup> Annual Congress Sepsis and Multiorgan Dysfunction Syndrome, September 2019, Weimar, Germany
7. **Roberts JA**. “Personalised Antibiotic Dosing in the Critically Ill”. Technical Solutions to Support Infection Management and Address AMR. Imperial College London, July 2019, London, UK
8. **Roberts JA**. “Critically Ill patients at risk of suboptimal antibiotic concentrations”. Antimicrobial Optimisation Seminar, NHMRC Centre for Research Excellence REDUCE, Nimes University Hospital, July 2019, Nimes, France
9. **Roberts JA**. “Symposium Pro/con: optimised dosing according to PK/PD principles in patients – does it improve the efficacy of antibiotics?”. European Conference on Clinical Microbiology and Infectious Diseases. Amsterdam, The Netherlands, April 2019
10. **Roberts JA**. “How to optimise antibiotic administration in critically ill patients – from PK/PD to TDM”. European Conference on Clinical Microbiology and Infectious Diseases. Amsterdam, The Netherlands, April 2019
11. **Roberts JA**. “A world with precision dosing and TDM”. ESCMID Educational Course: Optimised dosing of antibiotics – understanding PK/PD, clinical breakpoints and therapeutic drug monitoring. Rotterdam, The Netherlands, April 2019
12. **Roberts JA**. “Optimal dosing and continuous or prolonged infusion of beta-lactams and vancomycin – what is the evidence?”. ESCMID Educational Course: Optimised dosing of antibiotics – understanding PK/PD, clinical breakpoints and therapeutic drug monitoring. Rotterdam, The Netherlands, April 2019
13. **Roberts JA**, “Antimicrobial therapy and PK/PD in the critically ill”. Australasian Society of Infectious Diseases (ASID) Trainees Weekend, Brisbane, Australia, November 2019
14. **Roberts JA**, “Antimicrobial dosing in critically ill patients”. South Australia-Northern Territory Infectious Diseases Symposium, Society of Hospital Pharmacists of Australia, Adelaide, Australia, September 2019
15. **Roberts JA**, “TDM of beta-lactams in our ICU – State of the art”. Short Course in Critical Infection, The University of Sydney, Brisbane, Australia, September 2019
16. **Roberts JA**, “Beta lactam infusion – applications and pitfalls”. Antimicrobial Masterclass (AiM) for Acute Care Clinicians. Brisbane, Australia, June 2019
17. **Roberts JA**, “Antibiotic dosing in obesity and in patients on extracorporeal organ support”. Antimicrobial Masterclass (AiM) for Acute Care Clinicians. Brisbane, Australia, June 2019
18. **Roberts JA**, “Converting research into publications”. Queensland Hospital Pharmacy Research Collaborative and Society of Hospital Pharmacists of Australia (Queensland Branch) Research Symposium, Pharmacy Australia Centre of Excellence, Brisbane, October 2019
19. **Roberts JA**, “Pharmacological aspects of infective endocarditis”. Infective Endocarditis Symposium, The Prince Charles Hospital, Brisbane, October 2019



## Presentation Information *(cont)*

20. **Roberts JA**, "Therapeutic Drug Monitoring of Antibiotics". Royal Melbourne Hospital, Melbourne, Australia, October 2019
21. **Roberts JA**, "Antimicrobial Dosing in Critically Ill Patients". The Austin Hospital, Melbourne, Australia, October 2019
22. **Roberts JA**, "How to write a research protocol". Royal Brisbane and Women's Hospital Annual Research Symposium, Brisbane, September 2019
23. **Roberts JA**, "Updates to the electronic Therapeutic Guidelines (eTG) version 16". Queensland Statewide Antimicrobial Stewardship Program Education Session, Brisbane, June 2019.

## Invited Speakers

1. **Whitfield K**. Building Resilience in Students Monash Pharmacy Education Symposium 2019, Prato, Italy, 7-10 July 2019 (Workshop)
2. **Whitfield K**. Building Personal and Team Resilience Tasmania SHPA Conference 2019 (Keynote Speaker)
3. **Whitfield K**. PRINT Conference (Premedical Intern Conference), Brisbane 2019 (Interactive Workshop)
4. **Roberts JA**. National Antimicrobial Forum 2019, The University of Queensland and Queensland Health Communicable Diseases Branch, Royal Brisbane and Women's Hospital Education Centre, Brisbane, November 2019 (Convenor)
5. **Roberts JA**. Queensland Hospital Pharmacy Research Collaborative and Society of Hospital Pharmacists of Australia (Queensland Branch) Research Symposium, Pharmacy Australia Centre of Excellence, Brisbane, October 2019 (Convenor)
6. **Roberts JA**. Antimicrobial Optimisation Seminar, NHMRC Centre for Research Excellence REDUCE, Nimes University Hospital, Nimes, France, July 2019 (Convenor)
7. **Roberts JA**. Antimicrobial Population PK/PD Modelling and Dose Optimisation workshop, NHMRC Centre for Research Excellence REDUCE, Nimes University Hospital, Nimes, France, July 2019 (Convenor)
8. **Roberts JA**. Outpatient Parenteral Antibiotic Therapy/Hospital In The Home (OPAT/HITH) Workshop, NHMRC Centre for Research Excellence REDUCE, St Vincent's Hospital, February 2019, Sydney (Convenor).

## Oral Presentations

1. **Ta K, Turkington J, Young A, Groom P, Redmond A**. Penicillin Allergy need not be forever. 2019 RBWH QuaRRIES Quality Awards
2. **Ta K, Hale A, Nissen L, Hajkowicz K, Coombes I, Lau E, McBride LJ**. Evaluation of Pharmacist administered Influenza Vaccination in High risk hospital Outpatients (EPIVHO). 2019 SHPA Research Symposium.
3. **Doran E**. Leading a team of ED pharmacists. SHPA Emergency Medicine Extension Seminar Sydney August 2019
4. **Doran E**. The poisoned patient who produces the poison: fatal sodium azide ingestion. SHPA MM19 Gold Coast November 2019
5. **Doran E, Lock C, Coombes I**. The role of emergency medicine pharmacists: what do other emergency clinicians value most? SHPA MM19 Gold Coast November 2019
6. **Doran E**. Acute trauma management– the emerging role for pharmacists. Herston Healthcare Symposium 2019
7. **Tripcony L**. Pharmacists Providing Personalised Medicine Using Pharmacogenomic Testing. SHPA MM19 Gold Coast November 2019
8. **Carmichael S**. Fooling with the flow; Flozins and Fournier's. SHPA MM19 Gold Coast November 2019
9. **Vienet M, Galbraith K, McInerney B, Whitfield KM**. Leadership 101 for Intern Pharmacists. Proceedings of the 2019 45<sup>th</sup> SHPA National Conference, 14-16 November 2019 Gold Coast.

## Poster Presentations

1. **Yu A, Dekkar K, Nasseh N**. Mapping the phone lines: Assessing the need for pharmacist-led telephone interviews in the pre-admission clinic. SHPA MM19 Gold Coast November 2019
2. **Yu A, Dekkar K**. Establishing a pharmacy telephone review service in Pre-Admission Clinic. SHPA MM19 Gold Coast November 2019
3. **Yu A, Nawabi L**. Infections, readmissions and increased length of stay – all too common for the peri-procedural diabetic patient. Herston Healthcare Symposium 2019
4. **Dawson C**. Utilising an advanced scope pharmacy assistant to assess medication adherence: MAQ a difference. Renal Society of Australasia Conference, Auckland 27/06/2019
5. **Scuderi C, Rice M, Berquier I, Douglas C, Purtell L, Bonner A, Healy H**. The Role of the pharmacist in Kidney Supportive Care: A patient example. Herston Healthcare Symposium 2019
6. **Scuderi C, Rice M**. Video health consults pushing pharmacists into patients' homes using smart technology. International Society of Nephrology World Congress of Nephrology April 2019
7. **Scuderi C, Rice M, Jahan S, Purtell L, Rawlings C, Bonner A, Helen Healy H**. Less is More: Deprescribing in renal patients on a conservative management pathway. SHPA MM19 Gold Coast November 2019
8. **Scuderi C, Rice M, Hendy A, Burrows J, Purtell L, Bonner A, Healy H**. Role of pharmacists in Keeping Kidneys – a General Practitioner with Special Interest chronic disease clinic. SHPA MM19 Gold Coast November 2019
9. **O'Halloran G**. Improving physical health in mental health: a pharmacist's impact. Qld Research Symposium 26/10/2019
10. **Butler-Mader R, Craven AM, Fassbind I**. Transdermal Granisteron in the treatment of Hyperemesis Gravidarum. SOMANZ 2019
11. **Walker J**. The appropriateness of anticoagulant prescribing post-ischaemic stroke in patients with atrial fibrillation. Queensland Pharmacy Research Symposium





## Poster Presentations (cont)

12. **Black K.** From Palliation to Recuperation: Phytoin and Pharmacist to the Rescue. SHPA MM19 Gold Coast November 2019
13. **Black K.** A Plan to Beat the Pain: The implementation of personalised post-operative pain management plans. SHPA MM19 Gold Coast November 2019
14. **Doran E.** Carbamazepine toxicity & refractory seizures. Toxicology and Poisons Network Australasia (TAPNA) Scientific meeting Gold Coast May 2019
15. **Swan B, Hughes D, Doran E.** Anticoagulation Prescribing and Documentation in a Tertiary Emergency and Trauma Centre – The clot thickens. SHPA MM19 Gold Coast November 2019
16. **Doran E, Lock C, Coombes I.** The role of emergency medicine pharmacists: what do other emergency clinicians value most? SHPA MM19 Gold Coast November 2019
17. **Jensen M.** Drug Interactions, Haematopoietic Stem Cell Transplantation, Mycobacterium Tuberculosis – Pharmaceutical Challenges. SHPA Qld Branch Research Symposium
18. **Nasseh, N.** Rocking the Boat? Consumer Engagement in a Written Counselling Tool. SHPA Qld Branch Research Symposium
19. **Millhouse S.** Use of a Self-reported Measure of Medication Adherence in a Chronic Kidney Clinic. SHPA QLD Branch Pharmacy Symposium 2019
20. **Hoy S.** Evaluation of Neonatal Medication Safety Initiatives Across the Continuum of Care. SHPA MM19 Gold Coast November 2019
21. **Hossein Zadeh Z, Park M.** Avoiding valproate exposure in pregnancy using a decision-making tool. 2019 SHPA Research Symposium
22. **Legg A, Young A, Hallas E, Hajkowicz K, Redmond A, Turkington J.** Getting rid of penicillin allergy labels. Australasian Society for Infectious Diseases Annual Scientific Meeting
23. **Scuderi C, Rice M, Berquier I, Douglas C, Purtell L, Bonner A, Healy H.** The Role of the pharmacist in Kidney Supportive Care: A patient example. International Society of Nephrology World Congress of Nephrology April 2019
24. **O'Halloran G.** Improving physical health in mental health: a pharmacist's impact. SHPA MM19 Gold Coast November 2019
25. **Walker J.** The appropriateness of anticoagulant prescribing post-ischaemic stroke in patients with atrial fibrillation. SHPA MM19 Gold Coast November 2019
26. **Butler-Mader R, Craven AM, Fassbind I.** Transdermal Granisteron in the treatment of Hyperemesis Gravidarum. SHPA MM19 Gold Coast November 2019
27. **Millhouse S.** Use of a Self-reported Measure of Medication Adherence in a Chronic Kidney Clinic. SHPA MM19 Gold Coast November 2019
28. **Hossein Zadeh Z, Park M.** Avoiding valproate exposure in pregnancy using a decision-making tool. SHPA MM19 Gold Coast November 2019
29. **Nawabi L, North A.** Denosumab documentation and continuity of care in the geriatric evaluation and management (GEM) ward at the RBWH. RBWH Symposium Brisbane, September 2019
30. **Trenerry H, Risetto T.** The impact of a medicines information (MI) service on recognition and management of antiepileptic drug toxicity. SHPA MM19 Gold Coast November 2019
31. **Trenerry, H.** The management of carbamazepine-induced hyponatraemia and prevention of valproate toxicity by medicines information (MI) service. SHPA MM19 Gold Coast November 2019
32. **Risetto T, Trenerry H, Madan A.** Status Epilepticus and Encephalopathy or Valproate and Phenytoin toxicity? Toxicology and Poisons Network Australasia (TAPNA) May 2019
33. **Busuttin L, Middleton R, Smith C, Coombes I.** Forget the Fax – Implementation of Direct from Ward Dispensing. SHPA MM19 Gold Coast November 2019
34. **Davies K, Coombes I, Keogh S, Hay K, Whitfield K.** Medication administration evaluation and feedback tool design and validation. MAEFT Symposium 2019
35. **Vienet M, Galbraith K, McInerney B, Whitfield KM.** Leadership 101 for Intern Pharmacists. Monash Pharmacy Education Symposium 2019, Prato, Italy, 7-10 July
36. **Firman P, Whitfield K, Hayes T.** Oncology Pharmacists: Expanding Outpatient Service Models to Increase Patient Impact and Safety. SHPA Medication management 2019. Gold Coast Australia 14-16<sup>th</sup> November 2019
37. **Keegan L, Whitfield KM.** Preconception Counselling – The Role of the Clinical Pharmacist. Proceedings of the 2019 44<sup>th</sup> SHPA National Conference, 14-16<sup>th</sup> November 2019 Gold Coast
38. **North AM, Lust KM, Barrett H, Whitfield KM.** Therapeutic anticoagulation during the postnatal peripartum period: a survey of clinical practice. Proceedings of the 2019 21<sup>st</sup> Annual RBWH Health Care Symposium September 2019
39. **Davies K, Coombes I, Keogh S, Hay K, Whitfield KM.** Medication administration evaluation and feedback design and validation. Proceedings of the 2019 21<sup>st</sup> Annual RBWH Health Care Symposium September 2019
40. **Vienet M, Galbraith K, McInerney B, Whitfield KM.** Leadership 101 for Intern Pharmacists. Proceedings of the 2019 44<sup>th</sup> SHPA National Conference, 14-16<sup>th</sup> November 2019 Gold Coast
41. **Trenerry H, Risetto T.** The impact of a medicines information (MI) service on recognition and management of antiepileptic drug toxicity. QLD Branch Research Symposium October 2019.





# DEPARTMENT OF RHEUMATOLOGY

The rheumatology department has collaborated with New Zealand colleagues to produce clinical research on improving the understanding and clinical outcomes of patients living with gout. Other areas of research interest include assessment and management of autoimmune inflammatory arthritis, axial spondyloarthritis, eye conditions related to systemic arthritis, Systemic Lupus Erythematosus (SLE) and systemic vasculitis. Specifically, the department has a research interest in applying therapeutic drug monitoring to clinical practice with the aim of providing individualised medicine management. The department liaises with national networks including other medical specialties to optimise patient outcomes in patients with SLE, systemic vasculitis and scleroderma.

## 2019 Research Publications

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### Journal Articles

1. Bursill David... **Philip Robinson** ...Dalbeth Nicola. Gout, Hyperuricemia and Crystal-Associated Disease Network (G-CAN) consensus statement regarding labels and definitions of disease states of gout. *Annals of the Rheumatic Diseases e-published* 9<sup>th</sup> September 2019 (IF 12.81)
2. Mathuja Bavan and **Philip Robinson**. Management of patients with gout and achievement of target serum urate levels at a tertiary rheumatology service in Australia. *Internal Medicine Journal* 2019 *e-published* (IF 1.78)
3. **Philip Robinson**, Raj Sengupta and Stefan Siebert. Non-radiographic axial spondyloarthritis (nr-axSpA) – Advances in classification, imaging and therapy. *Rheumatology & Therapy* 2019;6(2):165-77
4. David Bursill... **Philip Robinson**... Nicola Dalbeth. Gout, Hyperuricemia and Crystal-Associated Disease Network (G-CAN) consensus statement regarding labels and definitions for disease elements in gout. *Arthritis Care & Research* 2019; 71:427-434 (IF 3.32)
5. **Hennessey A**<sup>1,2</sup>, Lukawska J<sup>3</sup>, Cambridge G<sup>4</sup>, Isenberg D<sup>5,6</sup>, Leandro M Adverse infusion reactions to rituximab in systemic lupus erythematosus: a retrospective analysis. *BMC Rheumatol.* 2019 Aug 29;3:32. doi: 10.1186/s41927-019-0082-7. eCollection 2019.

# SEXUAL HEALTH & HIV SERVICES

- Human Papilloma Virus saliva screening test study, a collaborative research partnership initiative with Sexual Health and HIV Services Metro North (SHHS), Queensland University of Technology (QUT) and Metro South Hospital and Health Service (MSHHS).
- Ethics approval and recruitment at SHHS for this study commenced in the last quarter of 2019 and continues to recruit healthy volunteers in 2020 to detect salivary biomarkers associated with HPV-related head and neck SCC cancers.
- The Australian HIV observational database (AHOD); an observational cohort study which commenced twenty years ago to monitor treatment uptake and outcomes and provides surveillance data for HIV care planning.
- Strategic Timing of Antiretroviral Treatment, of which its current data collection will determine whether HIV positive people will have chronic long term sequelae if they had delayed ARV treatment compared to cases whom received immediate ARV at time of diagnosis and continues until at least 2021.
- The Control and Elimination within Australia of Hepatitis C from people living with HIV (CEASE-D) study is the third observational cross-sectional study which tracks HIV-HCV co-infected people, their HCV and HIV treatments and their viraemia.
- Pending ethics approval, SHHS is Lead Australian site for an international pharmaceutical clinical trial using a novel anti-retroviral treatment regime in 2020. Other research studies are also in the pre-approval stages.

## 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>
Sasee Chameera, Ekanayake Weeramange	PhD, Queensland University of Technology	Head and Neck Cancer detection is a spitting distance away. Saliva Screening test study	Associate Professor Chamindie Punyadeera, <b>Dr Julian Langton-Lockton</b>

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/ external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Emma Knowland</b>	Clinical Nurse <i>(Research portfolio)</i>	0.2 (commenced August 2019)	Operational	n/a	n/a
<b>Fiona Taylor</b>	Clinical Nurse <i>(Research portfolio)</i>	0.2 (to Aug 2019)	Operational	n/a	n/a

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
Associate Professor Chamindie Punyadeera ( <i>QUT</i> )	<b>Dr Julian Langton-Lockton, Emma Knowland</b> , Sasee Chameera Ekanayake Weeramange ( <i>QUT</i> ), Kai Tang ( <i>QUT</i> )	Head and Neck Cancer detection is a spitting distance away. Saliva Screening test study
Dr Caroline Thng ( <i>Gold Coast Sexual Health, GCHHS</i> )	<b>Dr Julian Langton-Lockton, Dr Peter Simos, Adam Spinks</b> , Metro North Sexual Health and HIV Service, Dr Emma Sweeney, Associate Professor David Whiley, <i>University of Queensland, UQCCR</i>	<i>Mycoplasma genitalium</i> Antibiotic Resistance testing: Correlating Resistance testing to Clinical outcomes
<b>Ms Jackie Hanson</b> ( <i>Executive Director, Operations, MNHHS</i> )	<b>Dr Julian Langton-Lockton, Wade McClelland</b> ( <i>Metro North Sexual Health and HIV Service</i> ) Joseph Debattista ( <i>Metro North Public Health Unit</i> ), Queensland Positive People ( <i>non-government organisation</i> )	Project: From test to treatment – Completing the Circle (LINK innovation funding)
Karen Biggs ( <i>Gold Coast Sexual Health</i> )	<b>Jacqueline McElland, Adam Spinks, Julian Langton-Lockton</b> ( <i>Metro North HHS</i> ), Dr Maree O'Sullivan, Dr Caroline Thng ( <i>Gold Coast Sexual Health, GCHHS</i> ) ( <i>Metro South HHS</i> )	PEP in the era of PrEP
Professor Matthew Law ( <i>The Kirby Institute, UNSW, Sydney</i> )	<b>Dr Diane Rowling, Dr Julian Langton-Lockton</b> Metro North Sexual Health and HIV Service and Others	The Australian HIV Observational Database (AHOD)
Professor Gregory Dore and Dr Gail Matthews ( <i>The Kirby Institute, UNSW, Sydney</i> )	<b>Dr Diane Rowling</b> Metro North Sexual Health and HIV Service and Others	Control and Elimination within Australia of Hepatitis C from people living with HIV (CEASE)
The INSIGHT START Study Group. Australian Lead Researchers: ( <i>The Kirby Institute, UNSW, Sydney</i> )	<b>Dr Diane Rowling</b> Metro North Sexual Health and HIV Service and Others	Strategic Timing of Antiretroviral Treatment (START)

## 2019 Research Publications

### Journal Articles

1. E.L. Sweeney, a E. Trembizki, a C. Bletchly, b C.S. Bradshaw, c A. Menon, d 3 F. Francis, **e J. Langton-Lockton, f G.R. Nimmo, b and D.M. Whiley a,b 4** Title: Levels of *Mycoplasma genitalium* antimicrobial resistance differ by both region and gender in the state of Queensland, Australia: implications for treatment guidelines. *J. Clin. Microbiol.* doi:10.1128/JCM.01555-18, American Society for Microbiology
2. Holland DJ, **Simos PA**, Yoon J, Sivabalan P, Ramnarain J & Runnegar NJ. Infective Endocarditis: A Contemporary Study of Microbiology, Echocardiography and Associated Clinical Outcomes at a Major Tertiary Referral Centre. *Heart, Lung & Circulation* (2019) Issue 2. <https://www.ncbi.nlm.nih.gov/pubmed/31402124>.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

- Presentation information Australasian Chapter of Sexual Health Medicine – Annual Scientific Meeting (ASM), March 2019, Brisbane
- ASM 2019 Chair and Convenor **Dr Julian Langton-Lockton**.

### Poster Presentations

1. **Taylor, F., Nunn, J & Nicholas, J.** (2019) Clinical Audit at Sexual Health & HIV Service to determine rates of vaccination in HIV positive cohort Herston State of the Art Healthcare Symposium, MNHHS. Brisbane, Australia.

# QUEENSLAND STATE-WIDE ANTIMICROBIAL STEWARDSHIP PROGRAM

The research highlights for the Queensland Statewide Antimicrobial Stewardship Program were the collaboration of the Hot North Project which is quantifying and assessing appropriateness of antimicrobial prescribing practice in remote Aboriginal primary health care clinics across northern Australia and an innovative Antimicrobial Stewardship Program for children in remote and regional areas: optimising antibiotic use through early intravenous-to-oral conversion in collaboration with Children's Health Queensland Hospital and Health Services, AusHSI and The University of Queensland

The National Antimicrobial Resistance Forum was held in Brisbane, November 2019. The forum was a joint collaboration of the Queensland Statewide Antimicrobial Stewardship Program, Communicable Diseases Branch, Queensland Department of Health, the University of Queensland including the Centre of Research Excellence in Redefining Antimicrobial Use to Reduce Resistance, Queensland University of Technology and the National Centre for Antimicrobial Stewardship. This purpose of the forum was to provide a platform to share knowledge, experience and evidence for implementation of the response to antimicrobial resistance in the Australian context. It consisted of a clinical and scientific program with representatives from the academic, public, private and community sectors representing hospital, community and animal health, translational science and policy. Over two hundred delegates attended with over 50 sites registered to attend via video conference. The registrants included representatives from both national and international healthcare settings and from the following disciplines: medical, veterinary, allied health, scientists, government plus students. Video conference: 50 sites registered to attend via video conference.

**RBWH Research Staff with research roles, positions or appointments:** e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH Staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Minyon Avent</b>	Advanced Pharmacist	0.4	Operationally Funded	Optimising antibiotic use through early intravenous-to-oral conversion	The University of Queensland

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups / Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>Minyon Avent</b>	QLD Antimicrobial Stewardship Program	An innovative Antimicrobial Stewardship Program for children in remote and regional areas: optimising antibiotic use through early intravenous-to-oral conversion	Children's Hospital Foundation Queensland: General Health Services Research	\$95,000	\$65,000	2018-2019

## 2019 Research Publications

### Journal Articles

- Avent Minyon L**, Rogers Benjamin. A Optimising antimicrobial therapy through the use of Bayesian dosing programs. International Journal of Clinical Pharmacy, <https://doi.org/10.1007/s11096-019-00886-4>
- Asha C Bowen, **Kathryn Daveson**, Lorraine Anderson, Steven YC Tong. An urgent need for antimicrobial stewardship in Indigenous rural and remote primary health care. MJA 2019:211 doi: 10.5694/mja2.50216.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Oral Presentations

- Avent, ML, Daveson K**, Graham N, Clark JE. Prevalence survey of the use and appropriateness of antimicrobial prescribing for children in regional and remote areas. February 2019, Antimicrobials 2019 scientific meeting, Sydney Australia.



# THORACIC MEDICINE

## KEY PUBLICATIONS

- Fielding D, Farzad Bashirzadeh, Mahendra Singh, Lakshmy Nandakumar,** Amy E McCart Reed, Debra Black, Andrew J Dalley, Stephen Kazakoff, Katia Nones, John Pearson, Nic Waddell, Sunil R Lakhani, Peter T Simpson. Diff-Quik cytology smears from Endobronchial Ultrasound Transbronchial Needle Aspirate Lymph Node Specimens as a source of DNA for Next Generation Sequencing instead of cell blocks. *Respiration* 2019; 97; 525-539
- David I. K. Fielding, Farzad Bashirzadeh, Jung Hwa Son, Maryann Todman, Adrian Chin, Lionel Tan, Karin Steinke, Morgan N. Windsor,** Arthur Wai Sung. First human use of a new robotic-assisted fiber optic sensing navigation system for small peripheral pulmonary nodules. *Respiration* in press 2019
- Secombe P, Stewart P, Singh S, Campbell L, Stephens D, Tran K, White H, Sheehy R, Gibson J, Cooke R, Townsend S, Apte Y, Winearls J, Ferry OR, Pradhan R, Ziegenfuss M, Fong KM, Yang IA, McGinnity P, Meyer J, Walsham J, **Boots R,** Clement P, Bandeshe H, Gracie C, Jarret P, Collins S, Coulston C, Ng M, Howells V, Chatterjee I, Visser A, Smith J, Trout M; Clinical management practices of life-threatening asthma: an audit of practices in intensive care. *Crit Care Resusc.* 2019 Mar;21(1):53-62
- Holt MR,** et al. Similar characteristics of nontuberculous mycobacterial pulmonary disease in men and women. *Eur Respir J* 2019; 54:1900252.

## Supervised Post-Graduate Research Students

Name <i>(RBWH staff in bold)</i>	Current Studies University <i>(e.g. PhD, Masters etc.)</i> <i>(duration)</i>	Research Project Title	Supervisors <i>(RBWH staff in bold)</i>
<b>David Fielding</b>	PhD		Peter Simpson, Sunil Lakhani

## RBWH Research Staff with research roles, positions or appointments: e.g. Coordinators, Fellow, Adjunct and Honorary appointments

Name <i>(RBWH staff in bold)</i>	Type of Position	FTE	Funding Source <i>(operational/external/in-kind)</i>	Research Program	Affiliated University/ies
<b>Elizabeth Nixon</b>	Research Co Ordinator	1.0	Operationally Funded	Pet First Study	
<b>Jung Hwa Son</b>	Research Coordinator	0.2	Externally Funded	Debutant Study, COPD Value Registry	
<b>Zuzana Donelly</b>	Research Coordinator	0.2	Externally Funded	Interstitial Lung Disease Database	

## Current RBWH Research Group / Department Led Research Activity

RBWH Research Group / Department Led Researchers <i>(RBWH staff in bold)</i>	Collaborative Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
<b>David Fielding</b>	F Bashirzadeh, UQ CCR, QIMR BERGHOFER, GCUH, SCUH	Streamlining lung cancer diagnosis through genomic testing of cytology smears
<b>David Fielding</b>	F Bashirzadeh, E Nixon, HIRF, Dept Nuclear Medicine, Dept Thoracic Surgery	PET First in diagnosis of lung nodules

## Collaborative Research Activity involving RBWH Research Group / Department

Collaborative Led Researchers	RBWH Researchers and Others <i>(RBWH staff in bold)</i>	Research Project Title
S Herath <i>(Westmead Sydney)</i>	<b>D Fielding,</b> F Bashirzadeh, J Son	Gencut biopsy of pulmonary nodules
D Steinfort <i>(Royal Melbourne)</i>	<b>D Fielding,</b> F Bashirzadeh, J Son, Radiation Oncology	SEISMIC study of pre radiation therapy EBUS TBNA Staging
International collaborators	<b>C Zappala</b>	Pulmonary Hypertension medication studies

## Research Grants

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups /Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
Lakhani et al	RBWH Thoracic Medicine, UQCCR, QIMR B	Integrating next-generation genomic platforms into routine clinical practice	QGHA	\$480,000	\$100,000	2017-present

## Research Grants *(cont)*

Investigators <i>(RBWH staff in bold)</i>	RBWH Research Groups /Departments	Project Title	Granting Body	Total of funds awarded	Funds used in 2019	Years
<b>D Fielding</b> , Simpson, Nones, Steinfort, Nguyen, Williamson	RBWH Thoracic Medicine, UQCCR, QIMR B	Streamlining lung cancer diagnosis through genomic testing of cytology smears	CCQ, CA and Aus Genomics	\$957,000	\$100,000	2018 - 2012
<b>D Fielding</b> , P Simpson, S Lakhani, A Dalley, K Nones, N Waddell	RBWH, UQCCR, QIMR Berghofer	Streamlining lung cancer diagnosis through genomic testing of cytology smears	RBWH Foundation	\$ 40,000	\$40,000	2018- 2019
<b>C Zappala</b>	RBWH Thoracic Medicine	Medication studies of Pulmonary Hypertension	External		\$10,000	2018- present

## 2019 Research Publications

### Journal Articles

- Fielding D**. Twenty-five years of Respiriology: Advances in interventional pulmonology. *Respirology* 2020; 25:23-25
- Fielding D**, Oki T. Technologies for targeting the pulmonary nodule (including robotics). *Respirology* 2019 In Press
- Fielding D** Farzad Bashirzadeh, Mahendra Singh, Lakshmy Nandakumar, Amy E McCart Reed, Debra Black, Andrew J Dalley, Stephen Kazakoff, Katia Nones, John Pearson, Nic Waddell, Sunil R Lakhani, Peter T Simpson. Diff-Quik cytology smears from Endobronchial Ultrasound Transbronchial Needle Aspirate Lymph Node Specimens as a source of DNA for Next Generation Sequencing instead of cell blocks. *Respiration* 2019; 97; 525-539
- David I. K. Fielding, Farzad Bashirzadeh, Jung Hwa Son, Maryann Todman, Adrian Chin, Lionel Tan, Karin Steinke, Morgan N. Windsor, Arthur Wai Sung. First human use of a new robotic-assisted fiber optic sensing navigation system for small peripheral pulmonary nodules. *Respiration* in press 2019
- Langton D; Ing A; **Fielding D**; Wang W; Plummer V; Thien F, Bronchodilator responsiveness as a predictor of success for bronchial thermoplasty. *Respirology* 2019 ; 24:63-67
- Chronic Pulmonary Melioidosis Masquerading as lung malignancy diagnosed by EBUS guided sheath technique. *Zaw KK; Wasgewatta SL; Kwong KK; Fielding D; Heraganahally SS; Currie BJ. Respir Med Case Rep* 2019; 28: 100894
- Langton D**; Wang W; Sha J; Ing A; **Fielding D**; Hersch N; Plummer V; Thien F, Predicting the Response to Bronchial Thermoplasty. *J Allergy Clin Immunol Pract.* 2019 Nov 08
- Safety and Effectiveness of Bronchial Thermoplasty When FEV1 Is Less Than 50. *Langton D; Ing A; Fielding D; Hersch N; Sha J; Plummer V; Thien F, Chest* 2019 Sep 13
- Secombe P, Stewart P, Singh S, Campbell L, Stephens D, Tran K, White H, Sheehy R, Gibson J, Cooke R, Townsend S, Apte Y, Winearls J, Ferry OR, Pradhan R, Ziegenfuss M, Fong KM, Yang IA, McGinnity P, Meyer J, Walsham J, Boots R, Clement P, Bandeshe H, Gracie C, Jarret P, Collins S, Coulston C, Ng M, Howells V, Chatterjee I, Visser A, Smith J, Trout M; Critical Care Asthma Investigators . Clinical management practices of life-threatening asthma: an audit of practices in intensive care. *Crit Care Resusc.* 2019 Mar;21(1):53-62
- Holt MR, et al. Exploring immunomodulation by endocrine changes in Lady Windermere Syndrome. *Clin Exp Immunol* 2019; 196:28-38 (literature review for MPhil/PhD)
- Holt MR, et al. Similar characteristics of nontuberculous mycobacterial pulmonary disease in men and women. *Eur Respir J* 2019; 54:1900252 (project with UC Denver/NJH).

### Books

- Kurimoto N, **Fielding D**, Musani A (Eds). *Endobronchial Ultrasonography 2<sup>nd</sup> Edition*. Wiley Blackwell. 2019 In press.

### Book Chapters / Letters

#### D FIELDING. 5 CHAPTERS IN ENDOBRONCHIAL ULTRASONOGRAPHY

Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration: Tips and Tricks  
 Endobronchial Ultrasonography with a Guide Sheath: Up to Date  
 Endobronchial Ultrasonography for Ground-Glass Opacity Lesions  
 Endobronchial Ultrasonography of Airway Integrity and Tumor Involvement  
 Future Directions for Endobronchial Ultrasonography.

## 2019 Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speakers

#### D FIELDING

- World Lung Cancer Congress 2019. Robotic Bronchoscopy
- Menarini European Congress on Procedural Training Venice – Procedural training in Australia
- Brisbane Lung Cancer Conference: Specimen preparation in EBUS TBNA
- R Boots. RACP Lecture Series: Respiration Failure Acute and Chronic.

### Poster Presentations

- Holt MR, et al. A comparison of microbiologic and molecular measures of bacterial burden in adults with nontuberculous mycobacterial lung disease. *Am J Respir Crit Care Med* 2019;199: A2535 (poster-discussion, ATS 2019, project with UC Denver/NJH)
- Fanning M, Leong M, Samarantunga D. Encouraging nasal /nasal pillow masks during initial titration – real world outcomes. (Sleep Australia 2019).

### Other communications and outputs

D Fielding was Congress President of the ASIA PACIFIC CONGRESS OF BRONCHOLOGY, GOLD COAST MARCH 2019.