

2016

RBWH

Research Report





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Design and Typesetting

Clinical Multimedia
Building 15
Royal Brisbane and Women's Hospital
Butterfield st, Herston Q 4029

Phone: +61 7 3646 8111

Web: www.health.qld.gov.au/rbwh

Editor

Maxine Goulston

Photography

Clinical Multimedia

Produced by

CPX Printing and Logistics
Unit 4, 81 Bishop Street
Kelvin Grove Q 4059
Ph: +61 7 3221 1221
E: sales@cpx.com.au

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RBWH

Royal Brisbane and Women's Hospital



Executive Director's Report



Dr Amanda Dines
Executive Director
Royal Brisbane and Women's Hospital

Research is at the heart of every medical breakthrough and with each discovery the lives of people across Australia and around the world are changed forever.

Research is the foundation of excellence in clinical care and education at RBWH. I am incredibly proud of the research capability we are building across our facility.

Every year we make a bigger impact on global health and as I look back at 2016, it is clear it was another successful year for us.

Our researchers were awarded \$42 million in funding to continue their clinical research activity spanning medical, nursing and allied health and almost every speciality—from burns trauma and emergency medicine to pregnancy, cancer and antibiotic resistance.

In 2016, 59 departments at RBWH were actively involved in research. RBWH researchers were also heavily involved in supporting others in their work—getting involved in some 300+ collaborative research projects as well.

Our researchers were acknowledged nationally and internationally through 98 book chapters, receiving 115 awards, delivering 730 oral presentations and were invited to speak at 40 conferences and events around the world.

This growing presence on the research landscape affirms the capability and expertise we are fostering at RBWH and makes us an increasingly sought after research partner for many organisations.

We believe that working together creates an environment for innovation and continuous service improvement and partnership remains a key aspect of our business. Each year our relationships get stronger and we continue to work closely with our partners including Metro North Hospital and Health Service, QIMR Berghofer, Queensland University of Technology, The University of Queensland and Griffith University and interstate universities such as Monash University and University of New South Wales.

By working together we're informing evidence-based care, identifying life-changing improvements in our health services and bridging the gap between research and patient care like never before.

As always, the annual RBWH Healthcare Symposium remains the highlight of our research calendar. The best and brightest researchers and innovators continue to converge on the Herston campus, it is clear that we have built a world-leading research, healthcare and education hub here in Queensland.

Finally, I'd like to thank Professor Lawrie Powell AC for his leadership and commitment to fostering research at RBWH over the past 16 years. Professor Powell is a tireless advocate for research and researchers and his legacy will continue. I welcome Dr Marilyn Banks to the role of Executive Director of Research and look forward to witnessing the work of our researchers and innovators in 2017.

Research Director's Report



Dr Merrilyn Banks
Executive Director Research
RBWH

On 4 March 2016 Professor Lawrie Powell AC retired as Director of Research RBWH after 60 years of service to the Royal Brisbane and Women's Hospital. Professor Powell commenced in 1958 as a Senior Medical Student and he went on to complete his clinical training at the hospital. In addition, Professor Powell's passion for clinical research has rewarded him with numerous national and international awards for his research into liver disease and haemochromatosis.

Professor Powell retired as Director of QIMR Berghofer in 2000 and then commenced his role as Director of Research at the RBWH, establishing a Research Centre which was named the Centre for Advancement of Clinical Research. Professor Powell's tireless work also saw him provide expert guidance and advice through the Research Advisory Committee on behalf of the RBWH and the RBWH Foundation.

On behalf of the RBWH, I would like to commend Professor Powell for his dedication to, and support of, the research community here at the RBWH and highly valued collaborations across the globe.

2016 proved again to be an extremely busy and rewarding year for researchers. The inaugural Metro North Research Awards, which attracted high calibre submissions, rewarded RBWH researchers with six of the seven awards on the night.

- Researcher of the Year – Professor Michael Breakspear (Mental Health).
- Rising Star – Dr Dylan Flaws (Mental Health).
- Promoting Health Minds and Bodies – Professor James Scott (Mental Health).
- Chronic Disease and Community Care – D Helen Healy and the CKD.QLD Collaborative team (IMAC).
- Improving Patient Outcomes in an Acute Care Setting – Professor Alison Mudge (IMAC).
- Integrated Care – Health Service Research – Professor Louise Cullen and the Emergency Cardiology Research Group (CC&CSS).

Congratulations also to all RBWH staff nominated as possible winners of the prestigious awards for research across all clinical specialties and professions.

Also, during 2016 Emergency Physician, Professor Louise Cullen, Cardiologist Professor Will Parsonage and Project Officer Tanya Milburn received the honour for leading the Accelerated Chest Pain Risk Evaluation (ACRE) Project and accepted the prestigious Ko Awatea International Excellence in Health Improvement Award at the APAC Forum, one of the largest healthcare improvement conferences in the world. Our clinicians won an international award for translating their innovative research into clinical practice, enabling faster diagnosis of heart attacks and quicker treatment of patients presenting with chest pain. The project introduced an accelerated diagnostic protocol (ADP) across state emergency departments, providing guidelines to safely and quickly deliver care to patients who are not suffering a heart attack. Professor Cullen said she felt honoured to receive international recognition for the project, and hopes the ADP will become standard practice within ED's Australia-wide.

"This has reduced the demands on our emergency and inpatient services," Professor Cullen said. "We have been able to reassure patients earlier that they have not suffered a heart attack and this has also reduced the total average emergency department length of stay by 34 minutes".

2016 RBWH Symposium

The 2016 RBWH Symposium provided a unique opportunity for our researchers to showcase their work, exchange ideas and collaborate with different groups across Metro North. Award winners for 2016 included:

- Health Services Oral presentation – Professor Adam Scott.
- The Professor Lawrie Powell AC Early Career Award – Nienke Zomerdijk.
- The Professor William Egerton Award for Medical Research – Dr Richard Cheng.
- The Cecilia Brazil Nursing Research Award – Nicole Marsh.
- The Health Practitioners Research Award – Sonia Baker.

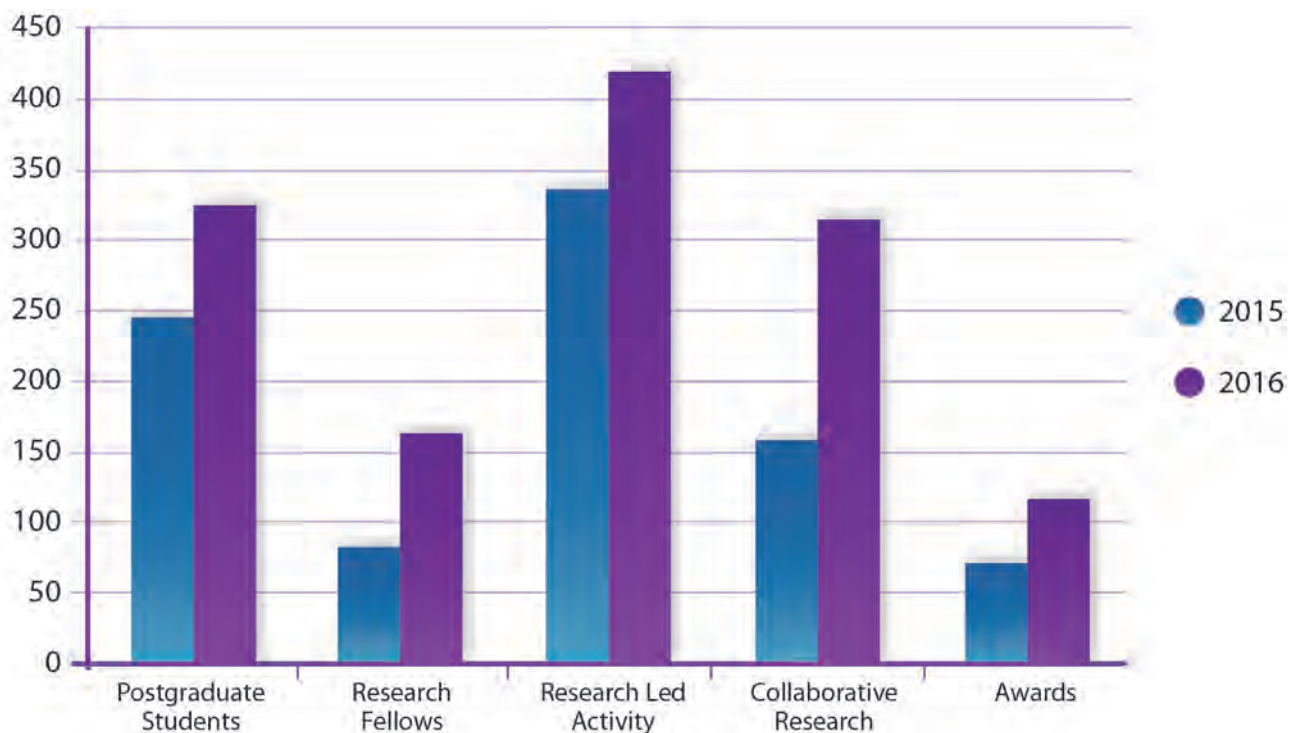
The best overall research award was presented to Clare Burns. Planning for the 2017 RBWH Research Symposium is well underway.

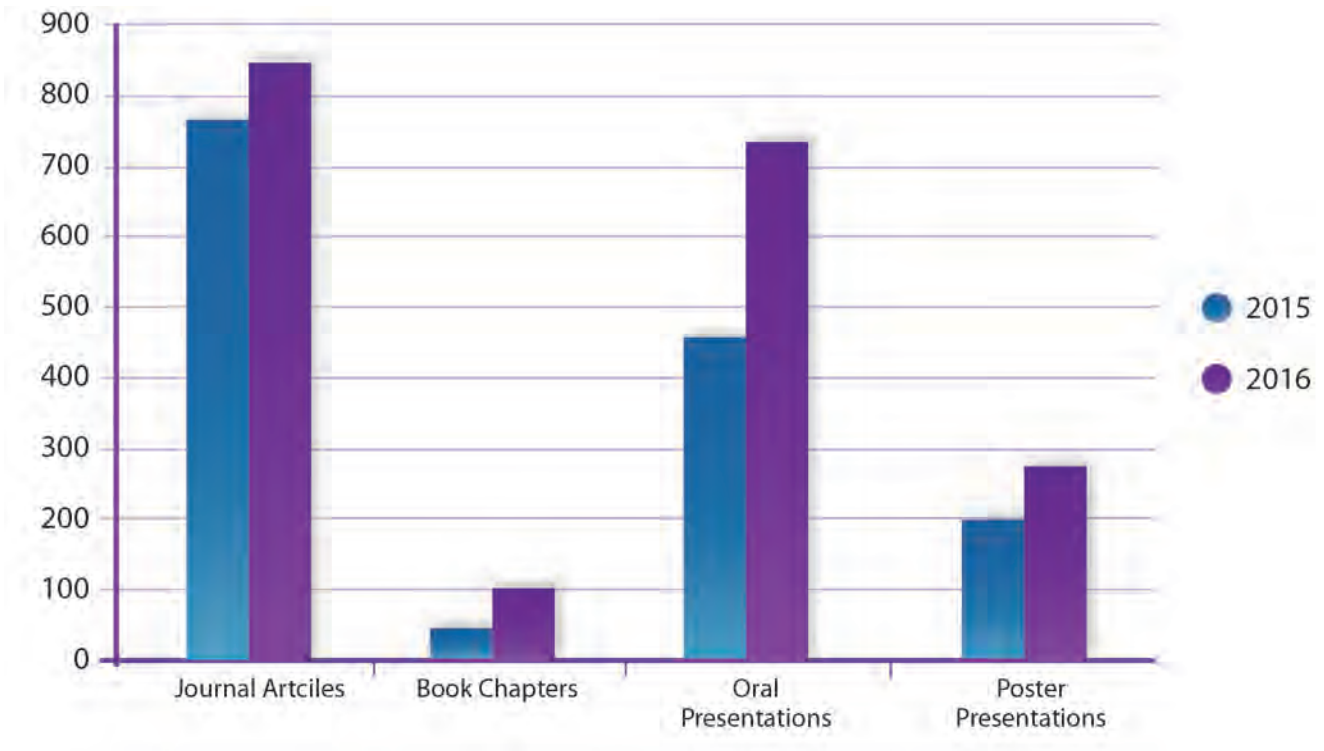
Partnerships

RBWH encompasses on site partnerships with The University of Queensland's Faculty of Medicine, University of Queensland's Centre for Clinical Science, Queensland Institute of Medical Research Berghofer, and Queensland University of Technology. These partnerships encompass the Herston Imaging Research Facility (HIRF), the Australian Centre for Health Services Innovation (AusHSI) and the Centre for Palliative Care Research and Education (CPCRE). In addition, during 2016, RBWH worked collaboratively with the Brisbane Diamantina Health Partnership strengthening its support of BDHP's excellence in clinical care, teaching and research. The strength of these onsite partnerships with RBWH attracts and retains highly cited researchers to our campus.

Publications and Presentations

Overall papers published across the globe by RBWH Researchers during 2016 numbered 853, a reputable effort for our clinical researchers. Increases were also noted in book chapters, poster presentations and oral presentations.

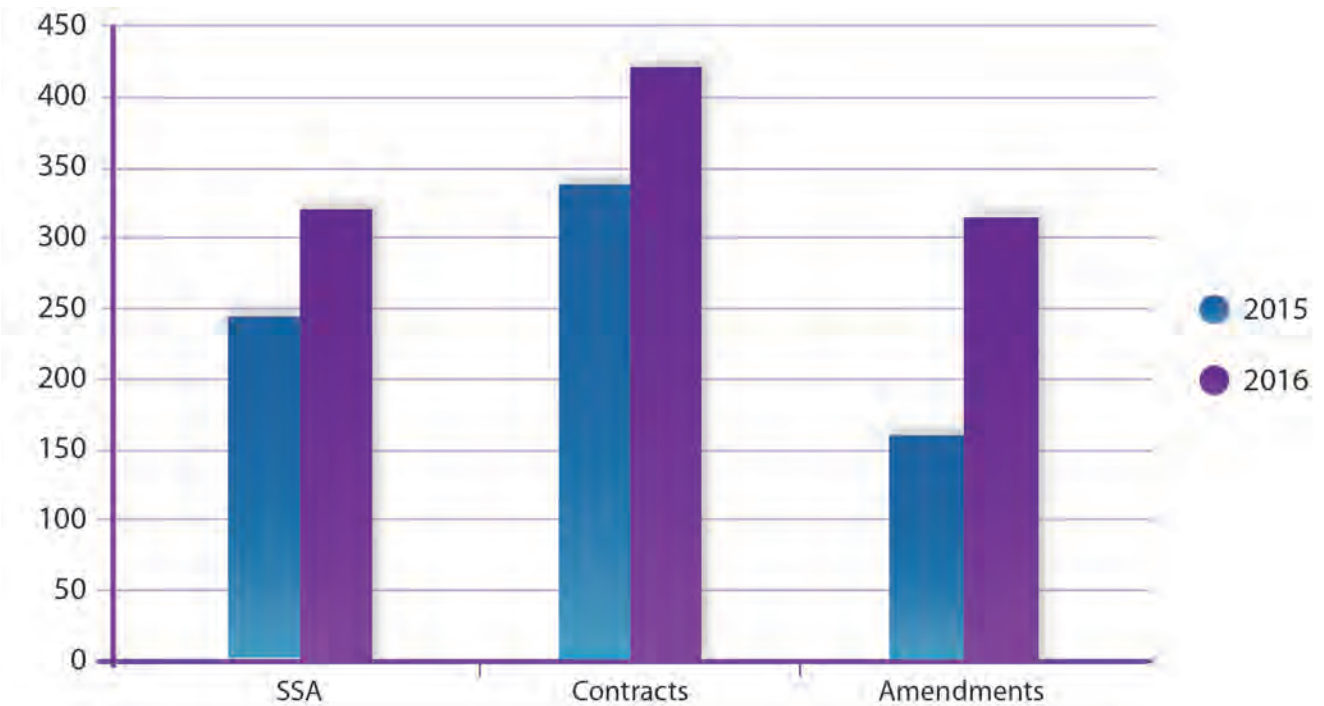




Studies – Research Governance Office.

2016 proved to be a particularly busy year for the RBWH Research Governance Office team who actioned 288 Site Specific Applications, (SSA's) 352 Contracts and 406 Amendments.

The RBWH Human Research Ethics Committee reviewed 221 studies and the HREC Chairperson also exempted 105 Audit/Quality Improvement from reviewed requests.



RBWH Human Research Ethics Committee's Report

Associate Professor Sue Patterson
Acting Chair
RBWH HREC (EC00721)

The National Statement on Ethical conduct in Human Research (The national Statement published by the National Health and Medical Research Council (NHMRC) obliges all institutions and researchers to ensure the safety of all those involved in research. One of the mechanism through which safety is promoted is review of all proposed studies involving human participants by an appropriately constituted Human Research Ethics Committee (HREC). As one of more than 200 HRECs registered by the NHMRC, the RBWH HREC plays an integral prole in ensuring research across Australia, but particularly within the RBWH, is ethically acceptable.

As required by the National Statement, the RBWH HREC comprises people from various walks of life who draw on diverse experiences and expertise to assess each proposal in accordance with relevant standards and guidelines. The 30 members, appointed for their knowledge, qualities and experience, and not as representatives of any organisation, group or opinion, include researchers, clinicians, scientists, lawyers, I.T. experts, ministers of religion and 'lay' people.

Each member contributes around 2 days per month voluntarily, reviewing studies for discussion at monthly meetings which can run for several hours. In addition to research proposals submitted for full ethical review, members may be asked to consider other submissions outside the committee structure, to enable expedited review of audit, evaluation or quality assurance projects which may be exempt from full HREC review. The HREC, through the chairperson and office staff, also provide advice and support to both experienced and novice researchers to facilitate the integration of research and practice.

In 2016, the RBWH HREC reviewed 221 studies with an additional 105 quality improvement and evaluation projects reviewed and considered exempt from review by the Chairperson. None of this work would be possible without the exceptional support of the HREC Office Coordinator Ann-Maree Gordon and Assistant coordinator, Ulani Hearn, who do an amazing job managing applications and enquiries. Their detailed and comprehensive knowledge of legislation, regulations and process, and willingness to go the extra mile to support researchers, are critically important to the excellent reputation of the RBWH HREC.

RBWH and RBWH Foundation Research Advisory Committee's Report



Professor Gerard Byrne
Chair
Research Advisory Committee

The Research Advisory Committee (RAC) is responsible for adjudicating applications for research Scholarship and Grant funding by the RBWH and by the RBWH Foundation. The RAC has a diverse membership of senior researchers and clinicians representing the medical, nursing and allied health streams. RAC members provide their services on an honorary basis.

In 2016 the RBWH Private Practice Trust Fund provided \$1,500,000 for competitive Scholarships and research Grants and the RBWH Foundation provided \$329,000 for competitive research Grants for the calendar year 2016. The RAC gives priority to Scholarships over Grants, and those postgraduate research students who obtain competitive external support (e.g. from NHMRC or ARC) are eligible for top-up funds.

The RAC received 19 applications for postgraduate Scholarships, of which 14 were successful (74% success rate). Scholarships were awarded to both MPhil and PhD students. Five of the 15 scholars were enrolled part-time. Students were enrolled at the University of Queensland, Queensland University of Technology and Griffith University. Their clinical disciplines included nursing, allied health and medicine. The total value of Scholarships was \$393,314.28.

In addition, the RAC received 124 applications for research Grants, of which 36 were successful (29% success rate). Nine research Grants were supported by funds from the RBWH Foundation and 27 research Grants were supported by funds from the RBWH Private Practice Trust Fund. The total value of research Grants was \$1,343,202. The disciplines represented among successful grantees included medicine, surgery, psychiatry, imaging, nursing, allied health and technical support.

I thank the RBWH Private Practice Trust Fund and the RBWH Foundation for their continuing support of research on campus.

2016 RAC Membership:

Dr Merrilyn Banks PhD
*Executive Director of Research,
Research Services, RBWH*

Dr Roger Allison MBBS, D Obst, MRCP, FRCP, FRACR, FACHPM
*Director of Oncology,
Cancer Care Services, RBWH*

Ms Kaelah Bosanquet CA, BBus(Accounting), Grad Cert (Bus Admin)
*CFO,
RBWH Foundation*

Professor Gerard Byrne MBBS, BSc (Med), PhD, FRANZCP
*Head, Academic Discipline of Psychiatry,
UQ and Director of Geriatric Psychiatry,
RBWH*

Adjunct Associate Professor Ian Coombes
*BPharm, MSc, PhD
Director of Pharmacy,
RBWH*

Adjunct Associate Professor Robyn Fox
*RN, RM, BEd, MNL, PhD, FACN
Nursing and Midwifery Director of Education,*

Professor Murray Mitchell DPhil, DSc, FRSNZ
Director, UQ Centre for Clinical Research

Professor Grant Ramm BSc, PhD
*Group Leader, Hepatic Fibrosis Laboratory,
QIMRB*

Professor Claire Rickard RN, BN, GradDip (CritCare), PhD, FAAHMS,
FACN
*NHMRC Centre of Research Excellence in Nursing Interventions
Griffith Health Institute Centre for Health Practice
Innovation*

Dr Peter Roeser MD, FRACP, FRCP –
*Retired last year, Retired Physician,
RBWH*

Professor Jenny Strong PhD, MOccThy, BOccThy
*Former Head of the Department of Occupational Therapy UQ and
Professor Emeritus
UQ*

Professor Robert Tindle BSc, PhD
*Retired Director Sir Albert Sakzewski Virus Research Centre, RCH
and Clinical Medical Virology and Professor Emeritus
UQ*

Mr Peter Treseder AM, KSJ, CCEO, FAICD, FAIM, FIIDM, CFRE, MBA
*CEO,
RBWH Foundation*

Dr Jacobus Ungerer MBChB, MMed (Chem. Path.), MBL, FRCPA
*Director, Chemical Pathology,
Pathology Queensland*

Professor Joan Webster RN, RM, BA, PhD
*Director of Nursing Research,
RBWH*

Dr Ian Wilkey MBBS, BSc, LLB, FRCPA, FAFPHM
*Former Medical Superintendent
RBH*

Herston Imaging Research Facility



Associate Professor Paul Thomas
Director
Herston Imaging Research Facility

The Herston Imaging Research Facility (HIRF) is a dedicated facility for human imaging research here on the RBWH campus. The facility houses one of only four combined PET and MR scanners in Australia, a 3T Prisma MRI scanner and a PET/CT scanner, along with supporting infrastructure. HIRF is operated as a unit of RBWH, using RBWH radiographers and nuclear medicine technologists to operate the scanners. Being a standalone facility separate to the clinical radiology and nuclear medicine departments, HIRF offers greater access and booking certainty to scanners than is possible in a busy clinical environment, and makes a more pleasant place for volunteers to attend. For researchers, the availability of three cutting edge collocated scanners opens up research possibilities not available elsewhere, as participants can be moved quickly from scanner to scanner so that the optimal scanner is used to ensure the best possible images to address the research questions.

HIRF is a collaboration of four partners: Queensland University of Technology, University of Queensland, Metro North and Queensland Institute of Medical Research-Berghofer. Researchers from all of the partners, as well as external institutions, collaborate on imaging research at HIRF. HIRF also collaborates closely with the radiopharmaceutical laboratory of the nuclear medicine department at RBWH to make available a wide variety of PET tracers to researchers for use at HIRF.

2016 marked the first full year of operations of HIRF and saw a significant ramp up in research studies, such that there were over 20 projects that had commenced or were in the pre commencement phase by the end of 2016. HIRF supports the imaging component of a variety of sponsored commercial research trials, but most studies performed at HIRF are investigator initiated. The projects cover a wide range of disciplines, with particular expertise in neuroimaging and cancer research.

Brisbane Diamantina Health Partners



Ms Areti Gavrilidis
General Manager
Brisbane Diamantina Health Partners



Brisbane Diamantina Health Partners (BDHP) Queensland's first academic health science network, brings together leading universities, research institutions and healthcare providers focussing on research, clinical care, and education (and please see BDHP infographic).

Our ten partners, based in south-east Queensland, aim is to integrate innovative research, training and healthcare practice to enable rapid translation of evidence-based research and to deliver the highest quality healthcare to our community. "BDHP's focus is bringing innovative research from the laboratory to patients as efficiently and effectively as possible" Ms Areti Gavrilidis General Manager BDHP.

The Brisbane Diamantina Health Partner members are Metro North Hospital and Health Service, Metro South Hospital and Health Service, Children's Health Queensland Hospital and Health Service, Mater Health Services, The University of Queensland, Queensland University of Technology, Translational Research Institute, QIMR Berghofer Medical Research Institute, Queensland Department of Health, and Brisbane South PHN. As part of Metro North Hospital and Health Service, the Royal Brisbane and Women's Hospital plays an important role in Brisbane Diamantina Health Partners. The hospital is providing quality research that is contributing to the strategic objectives of the partners.

Brisbane Diamantina Health Partners has nine key focus areas where the translation of innovative research into clinical practice is leading to better healthcare for Queenslanders. These areas are:

- Ageing.
- Brain and mental health.
- Cancer.
- Chronic disease.
- Evidence and innovation in clinical care and recovery.
- Immunity, inflammation, infection.
- Maternal and child health.
- Skin and Skin Cancer.
- Trauma, critical care.

Late last year the BDHP submitted an application to the National Health and Medical Research Council (NHMRC) for recognition as an Advanced Health Research and Translation Centre (AHRTC) and were shortlisted for an interview. The interview involved a contingency of six BDHP members representing the partners in front an international panel to address predetermined criteria.

We are looking forward to a positive announcement on the outcome of the application in the near future.

For further information about Brisbane Diamantina Health Partners please visit the BDHP website www.brisbanediamantina.org.au/

Griffith University



Professor Suzanne Chambers
Director
Menzies Health Institute

The Menzies Health Institute Queensland (MenziesHIQ) at Griffith University and the Royal Brisbane Women's Hospital (RBWH) have maintained a strong working relationship into 2016. Ground breaking clinical research has continued to form the foundation of this partnership with clinical trials and joint staff appointments in place to support improvements in patient care.

The partnership between MenziesHIQ and the RBWH founded the Alliance for Vascular Access Teaching And Research (AVATAR) group in 2007. AVATAR conducts world leading research improving access to veins and arteries for medical treatment.

This this alliance has resulted in over \$10 million in research funding, 150+ publications including many large randomised controlled trials, 20+ researchers trained at Honours, Masters or PhD level, and numerous clinical nurses and doctors participating in the research. This work is referenced in global clinical practice guidelines such as those of the US Centers for Disease Control, the UK's NHS Infection prevention Guidelines and the international Standards of Infusion Therapy.

Griffith University's MenziesHIQ will continue to collaborate with the RBWH to generate translatable research outcomes that improve health and wellbeing for patients and communities alike.

Pathology Queensland



Prof Sunil Lakhani
Executive Director Research

Pathology Queensland recognises the key role of research in the delivery of good clinical care. It has recently established a Research Office – with the appointment of Professor Sunil Lakhani as Executive Director Research. Prof Lakhani participated as a ‘capability expert’ on The National Research Infrastructure Roadmap 2016, chaired by the Chief Scientist, Dr Alan Finkel AO (www.education.gov.au/2016-national-research-infrastructure-roadmap) Collaborative initiatives include (but not limited to):

Anatomical Pathology:

Breast Cancer (Sunil Lakhani) in collaboration with the RBWH Breast Surgery, Neurosurgery, Oncology and Radiology. The work is supported by NHMRC Program and Project grants to UQ/QIMR collaborative and has resulted in publications in all the major scientific and clinical journals. A pilot clinical trial to test a PET-drug conjugate uptake in Brain Metastases is about to begin at The Herston Imaging Research Facility (HIRF).

Lung cancer (Sunil Lakhani, Mahendra Singh, Laxmi Nandkumar) project with Dr David Fielding and colleagues in UQCCR and QIMRB to develop next generation sequencing analysis of cytology smears from endoscopic aspirates.

Chemical Pathology:

The Chemical Pathology R&D Unit (Jacobus Ungerer and colleagues) supports collaborative research to improve patient care. Activities include diagnostic testing, data acquisition, laboratory bench work and development of new test methodology. Core technologies include robotics, mass spectrometry and immunochemistry with collaborations in cardiology, emergency medicine, intensive care, renal disease, gastroenterology and endocrinology. The work resulted in peer-reviewed publication and changes to clinical practice.

Microbiology:

The Microbiology group (Graeme Nimmo and colleagues) participate in the Australian Group on Antimicrobial Resistance surveillance programs for *Staphylococcus aureus*, *Enterococcus* and gram-negative bacteraemia – these are a major component of Australia’s response to antimicrobial resistance (www.agargroup.org).

Prof Nimmo is a member of the editorial boards of *Pathology*, the *European Journal of Clinical Microbiology and Infectious Disease* and the *Global Journal of Antimicrobial Resistance* and is chief investigator in the Centre of Research Excellence in Reducing Healthcare Associated Infections.

Haematology:

The Pathology Qld Transfusion Haematology department (John Rowell and colleagues) is assisting with two studies (FEISTY, PROPHICCY) that measure coagulation status using viscoelastic haemostatic assays, which are Bank) at RBWH since June 2014 performed on ROTEM machines. ROTEM testing has been provided by the transfusion laboratory (Blood Genetic Pathology):

Pathology Queensland and its partners have recently been awarded the capability project ‘*Integrating next generation genomic platforms into routine clinical practice*’ by the Queensland Genomic Health Alliance. This will further cement the role that pathology plays at the RBWH and across Queensland.

QIMR Berghofer Medical Research Institute



Professor Frank Gannon
Director and Chief Executive Officer
QIMR Berghofer Medical
Research Institute

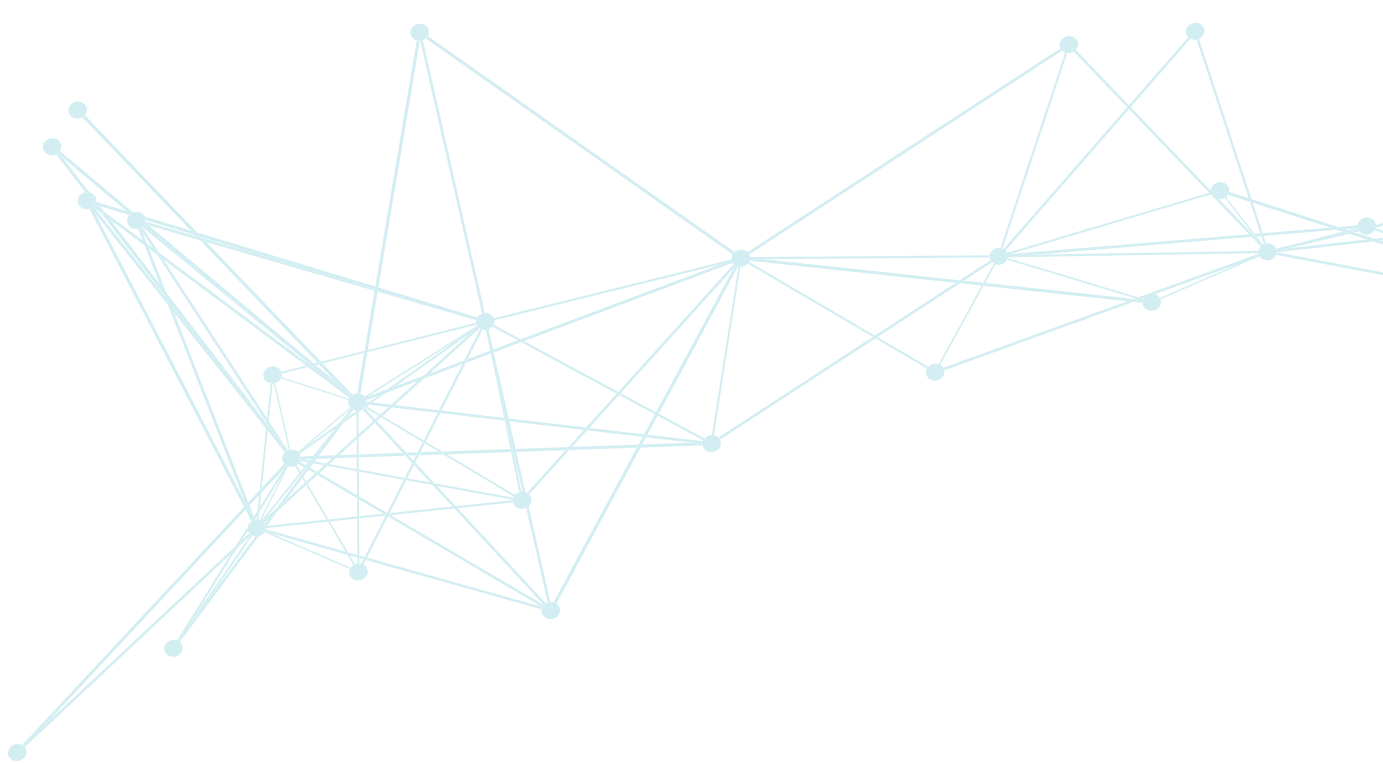
Collocation at Herston could mean that there are two entities that are physically adjacent but that was the extent of the interaction. However, each year it is clear that the collocation of QIMR Berghofer and the RBWH is the basis of ever-increasing and mutually beneficial cooperation and collaboration.

As Queensland's medical research institute with a statutory responsibility to improve the health of Queenslanders, we are very aware that we are responding to the challenges that come from clinicians (and society generally) as we try to provide solutions to these problems. We see ourselves as 'The Future of Health' because of our conviction that better health care outcomes will arise only from high-quality and clinically-informed medical research. The strong engagement between researchers here and the RBWH ensures that our work is relevant and that we are jointly and synergistically improving the wellbeing of our community.

Although partnerships can take many forms, we have ensured the solidity and persistence of collaborations through formal agreements such as the Brisbane Diamantina Health Partners (BDHP) and the Herston Imaging Research Facility. QIMR Berghofer and the RBWH are fortunate and privileged to share joint appointments for many of the nation's leading clinical researchers, further underscoring the deep engagement and shared mission of our two institutions. This happens when some of our lead researchers are active clinicians, but also when active clinicians in the RBWH, and elsewhere, are appointed as Honorary Group Leaders and have their laboratories in the Institute. The long-established RBWH-QIMR Berghofer conjoint laboratories are also an important indication of our cooperation. We encourage and wish to promote these clinical-research linkages even further.

The past year has seen a reinvigoration of the Herston Precinct. Exciting plans for the Herston Quarter were announced, and plans for the development of the RBWH are moving from discussion to action. This has led to regular and fruitful meetings with the RBWH, UQ, QUT and ourselves in order to have the strongest possible medical and health precinct at Herston.

Through all these efforts we are ensuring that collocation is not simply an accident of address but rather one which grows to deliver the best for society and to fully use the skills which are available in both organisations. The outcomes highlighted in this report attest to the real progress that is being made.



Queensland University of Technology



Professor Ross Young
Executive Dean, Faculty of Health
Queensland University of Technology

QUT is a major university partner of the RBWH with a focus on health-related research, education and training. QUT's involvement is largely through our Faculty of Health, the QUT Health Law Centre, Science and Engineering Faculty, the Institute of Health and Biomedical Innovation (IHBI) and Brisbane Diamantina Health Partners.

Our productive partnership with the RBWH continued in 2016 with new opportunities recognised in the areas of regenerative medicine and imaging. Plans for the Herston Biofabrication Institute progressed over the past 12 months. This exciting collaboration between Metro North Hospital and Health Service and QUT will provide innovative, personalised and automated treatments. Our researchers are advancing knowledge and technology in 3D scanning, modelling and printing of bone, cartilage and other human tissue to repair tissue that is lost or damaged.

Collaboration through the Herston Imaging Research Facility entered its second year and is a unique opportunity for clinicians and researchers to work together to facilitate our understanding in the diagnosis and treatment of cancers, psychological disorders, cardiovascular disease, neurological disease and injury. The facility is an alliance between QIMR Berghofer, UQ, QUT, RBWH through the Metro North Hospital and Health Service, and industry partner Siemens. An academic joint-appointment with QIMR-B has facilitated the establishment of a program of clinical and preclinical molecular imaging research which is helping to assess new radiotracers for PET studies. Other projects, including those funded via RBWH seed grants, are currently in development.

In 2016, The Australian Centre for Health Services Innovation (AusHSI) provided advice and guidance on a number of projects with the RBWH around health services, including the development and proliferation of multi-criteria decision analysis tool, EPICentre, Reviewing Equitable Access to Care outside of Hours (REACH), evaluating costs and outcomes of the elective surgery pod, and analysis of cost effectiveness of the Comprehensive Epilepsy Surgical Program (CESP). AusHSI awarded an implementation grant to realign resources to reduce low value services aimed at improving nutritional care of acute hospital patients, and a partnership grant to improve emergency chest pain assessment. AusHSI is a collaboration between QUT, UQ, RBWH and Queensland Health and the RBWH Chief Executive, and Director of Research, are active members of AusHSI's governance team setting the strategic direction of the Centre.

Longstanding collaborations in nursing research and training continued with researchers receiving NHMRC funding for a clinical trial in nursing interventions to reduce pain associated with chemotherapy induced peripheral neuropathy. A second clinical trial received funding from industry to look at radiation dermatitis in head and neck cancer patients. Two NHMRC Centres of Research Excellence bring QUT and RBWH researchers together. The QUT-based CRE in End-of-Life Care has three key programs addressing models of service delivery and end of life decision making. Outputs included publications in highly ranked journals including, 'BMC Palliative Care' and 'Palliative Medicine'. The NHMRC Chronic Kidney Disease CRE involves investigators and collaborators from across Australia and is led by UQ with MNHHS, QUT and other partners. Research outcomes have featured in 'BMC Nephrology' and 'Journal of Advanced Nursing'.

The QUT/RBWH Cancer Nursing Professorial Precinct team provides academic leadership to the 280 cancer nurses at the RBWH. Investigators were awarded a RBWH Foundation grant to conduct a pilot trial investigating a nurse-led survivorship intervention for cancer patients. Outputs in high-ranking international journals 'Journal of Clinical Oncology' and 'Journal of Cancer Survivorship' show the impact of this collaboration. QUT's joint professorial appointment with Critical Care Services leads the Intensive Care Nursing Professorial Unit at the RBWH. The unit developed a program of work focused on developing evidence-based approaches to nursing care and management of the mechanically ventilated critically ill patient in intensive care. A successful grant with the Wound Management CRC involved a clinical trial in relation to reduce pressure related injuries. This work has been published in the 'International Wound Journal', 'BMC Nursing' and 'Australian Critical Care'. QUT's joint professorial appointment with Internal Medicine Services has helped to establish the RBWH Stroke Nursing Professorial Unit. The team was awarded an RBWH Foundation Grant to investigate physical activity and its effect on neuroprotective peptides and contributes to two state-wide grants in the areas of stroke rehabilitation and reducing the impact of hospital stays. Recent outcomes have been published in 'Stroke'.

In addition to the above, publications demonstrate the productive links between academic staff, clinicians and students in health services, palliative care, nursing practice, renal health, nutrition, cardiovascular disease, cancer and neurophysiology. Researchers from QUT and RBWH have received new grants in the areas of brain trauma, cancer treatment and patient wellbeing, renal care, nursing practice, wound care and biomanufacturing that will ensure that QUT's partnership with the RBWH remains productive and beneficial for our organisations, patients and the community.

RBWH Foundation



Mr Peter Treseder
Chief Executive Officer
RBWH Foundation

Being the charity arm of Royal Brisbane and Women's Hospital is a privilege. We are honoured to work with and support some of the country's most brilliant researchers as well as work with extremely generous individuals and businesses in the community.

The generosity of these people and organisations is humbling, and we are truly grateful to them for their conviction to invest in the advancement of medical research in order to further improve patient outcomes at our hospital.

The Foundation and its donors understand that research is a long and costly endeavour with many unforeseen impediments, commonly caused by the unpredictable nature of research funding. We also understand how difficult it is for many researchers to obtain funding for their projects. RBWH Foundation is, therefore, committed to assisting our researchers in their endeavours by providing funds needed to sustain existing projects and seed funding for the establishment of new projects so the evidence can be gathered to support applications to larger funding bodies.

We are incredibly proud of the fact that our seed funding has enabled several RBWH researchers to obtain substantial grants from the NH&MRC in the past few years.

In 2015, Professor Jason Roberts received over \$2 million for his study into antibiotic resistance and Dr Andrew Mallett and his investigation team received \$1.2 million for a multi-centre study into inherited kidney disease.

Also as a result of the seed-funding grant received from RBWH Foundation for the initial BLING (Beta Lactam Infusion Group) Study (60 patients), the RBWH's ICU team received an NH&MRC grant to do a double blind Phase IIb RCT of 420 patients. This has now led to a further \$3.2 million grant over five years being awarded from NH&MRC in 2016 for BLING III. BLING III is an international randomised control study involving 7,000 patients and will be the definitive trial investigating effective modes of antibiotic administration of beta-lactam antibiotics.

In the 2015/16 financial year, the support we received through donations, sponsorships, bequests and participation at our various events, enabled RBWH Foundation to distribute \$4.5 million to a range of different research and patient care initiatives at the hospital.

RBWH Foundation also manages a number of 'tied' funds on behalf of researchers at the hospital and is an official administering institute of NH&MRC, the only official administering body for the hospital. Tied funds are typically comprised of donations instigated by the particular department that established the fund, as well as proceeds from fundraising events, bequests or other activities. The tied funds and any NH&MRC grants kept with the Foundation are simply administered by the Foundation for a zero to minimal administrative fee, and the department is able to access money when required. Full financial support and monthly reporting can also be provided.

RBWH Foundation's support for researchers at the hospital is therefore not just monetary. We also strive to assist in the journey of discovery by enabling them to focus on what they do best without having to worry about the financial reporting and other administrative details.

We thank all of our donors, sponsors and event participants for their munificent support and we thank the researchers for allowing us to be part of their journey of discovery. We are committed to continuing to build awareness for the incredible research conducted at RBWH and, of course, continuing to grow our support.

The University of Queensland



Professor Melissa Brown
Deputy Executive Dean and
Associate Dean (Research)
Faculty of Medicine and Biomedical Sciences
The University of Queensland

The two health-focused Faculties at UQ, Health and Behavioural Sciences (HaBS) and Medicine, have multiple active points of engagement with RBWH on the Herston campus, involving collaboration across research, teaching and clinical service delivery.

Both Faculties have a strong presence on the Herston campus. This includes the School of Dentistry, the Medical School, RBWH Clinical Unit, UQ-CCR and the School of Public Health, as well as a number of UQ-RBWH collaborative research centres: the Burns, Trauma and Critical Care Research Centre (BTCCRC), directed by Professor Jeffrey Lipman; the Perinatal Research Centre led by Professor Paul Colditz; and the Centre for Youth Substance Abuse Research (CYSAR), funded by philanthropy from the Graeme Wood Foundation and directed by Professor Jason Connor. The Recover Injury Research Centre, funded by the Queensland Motor Accident Commission, and situated in the UQ Oral Health Centre, has a number of close collaborations with RBWH physiotherapy. UQ is a partner with QUT, Queensland Health, and QIMR Berghofer in the Health Imaging Research Facility (HIRF) located in the CCR building. This provides state-of-the-art medical imaging to researchers in oncology, clinical neurosciences, and related fields.

The integration of the UQ School of Dentistry and the Brisbane Dental Hospital within the spectacular, purpose-built UQ Oral Health Centre has become a reality, with seamless integration of clinical teaching and service provision. We are delighted to have five senior conjoint positions ensuring the success of this collaboration. UQ is also an active partner in the development of a planned Specialised Rehabilitation and Ambulatory Care Centre on the Herston site, which will serve as a pathway from hospital to community for RBWH patients while at the same time providing unrivalled opportunities for interprofessional clinical education and translational research to benefit rehabilitation outcomes.



Professor Christina Lee
Associate Dean (Research)
Faculty of Health and Behavioural
Sciences
The University of Queensland

The University looks forward to continuing to strengthen its relationship with RBWH, with the aspiration of working collaboratively with the hospital and within the Brisbane Diamantina Health Partners to achieve evidence-based improvements in research, clinical care and education to deliver the highest quality healthcare for the benefit of Queensland patients.

The University of Queensland Centre for Clinical Research



Professor Gregory Rice
Acting Director
The University of Queensland
Centre for Clinical Research

UQ CCR's mission is to be a leading edge clinical research facility linking laboratory science to patient care and outcomes, and to drive collaborative research in health and medical research with clinical health providers. Since commencing operations, CCR researchers have published more than 2900 peer-reviewed research manuscripts that have received > 78,250 citations and has secured in excess of \$73 million in research funding. The ongoing research collaboration with the Royal Brisbane and Women's Hospital remains one of the most significant drivers of CCR's clinical research translation. Indeed, CCR's most frequent national collaborating organisation has been the Royal Brisbane and Women's Hospital.

The restructuring of the Faculty of Medicine in 2016 further enhanced research collaborations and engagement between CCR and RBWH with the relocation of more than 40 clinical and pre-clinical research active staff into UQCCR, including Professors Lipman and Roberts, Burns Trauma and Critical Care Research Centre; Professor Leonie Callaway, Obstetric Medicine; and Associate Professor Lata Vadlamudi, Neurogenetics.

As of December 2016, CCR supports the research activities of 220 staff and students, and provides international industry standard training for Research Higher Degree students and post-doctoral fellows. Centre staff published 444 peer-reviewed research manuscripts, including 12 high impact publications in Nature, The Lancet, and the New England Journal of Medicine. RBWH clinical staff co-authored 40% of CCR's primary research output. The contribution to research output by research themes was: 27% in Brain and Mental Health; 20% in Mothers Babies and Life; 17% in Cancer; 14% Infection and Immunity; and 20% other. The most frequently cited research contributions in 2016 were in the global burden of disease, cancer and infectious diseases (Professor David Paterson was again honoured as a Thomson Reuters Highly Cited Researcher).

CCR's clinical outpatient floor continues to be a focal point for engagement with RBWH staff. In 2016, 1444 patients engaged with 31 different clinical research projects and trials. We continue to seek opportunity to further develop this facility with RBWH clinical researchers and incorporate these activities within CCR's quality management systems. Consistent with CCR's commitment to continuous quality improvement in all aspects of its operation, the Centre holds NATA accreditation for research and development, and complies to ISO standards for the development of medical devices and in vitro diagnostics. Through its quality programs, CCR is able to provide collaborators with assurance about the robustness and reproducibility of research outcomes.

As Acting Director of UQ CCR, I thank and acknowledge our clinicians, healthcare practitioners, scientists and students for striving for excellence in their research and commitment to improving community health and well-being. The Centre seeks to further develop collaborative clinical research engagement with RBWH, the continued development of evidence-based practice and the training of a new generation clinical researchers. This will be the product of continuing communication and alignment of research of objectives and end-user requirements, as excellence can only be achieved when everyone shares a deep commitment to common goals.

Doctors of Philosophy Completed in 2016

Allied Health

Name	Name of Project
Clare Burns	Telehealth and Speech Pathology Management of Head and Neck Cancer
Jade Dignam	Factors influencing treatment –induced language recovery in chronic, post-stroke aphasia

Mental Health

Name	Name of Project
Clare Burns	Telehealth and Speech Pathology Management of Head and Neck Cancer
Jade Dignam	Factors influencing treatment –induced language recovery in chronic, post-stroke aphasia

Women's and Newborn Services

Name	Name of Project
Fabio Gomes	Development of an assay for total vitamin D content in milk and application to study the effect of pasteurisation in breastmilk

Telehealth and Speech Pathology Management of Head and Neck Cancer



Dr Clare Burns

As a speech pathologist in working in cancer care over many years, I developed an understanding of the challenges our patients experience in accessing expert care, and also the issues clinicians face in delivering these services. Speech pathology intervention is necessary to optimize the swallowing and communication rehabilitation of patients with head and neck cancer (HNC). Given the specialist nature of this intervention, not all clinicians are able to manage this group independently, and historically support is provided by RBWH via email/phone contact to the local speech pathologist, and/or the patient travels to Brisbane for intervention.

Health services now have a wonderful opportunity integrate technology with the delivery of care, to improve access to specialist services, and in doing so enhance patient outcomes and service efficiencies. My PhD focused on developing and evaluating new telepractice service models to support speech pathology cancer care intervention. Using purpose-built videoconferencing systems connected via the QHealth telehealth network, weekly telehealth appointments were conducted online between the RBWH speech pathologist and patients and local clinicians at three regional cancer facilities: Nambour, Hervey Bay and Rockhampton. The benefits of this Australian-first service were significant, with results of a multi-site randomized controlled trial demonstrating improved patient outcomes, service efficiencies and cost saving for both the patient and speech pathology services in comparison to standard care. Importantly patients also preferred the telehealth model, and clinicians benefited from the online training opportunities.

One of the many benefits of my PhD journey was learning about new technology and how it can be adapted to support health care delivery. Developing new collaborations with specialist staff at Statewide Telehealth Services, RBWH AV Telemedicine Department and Mr Ben Keir, Medical Physicist, highlighted to me the importance of integrating the expertise of clinical, research and technology staff when developing and evaluating these new services, to ensure clinical efficacy and utility is optimised.

I received wonderful support throughout my PhD journey, and I would like to thank my supervisors, Professor Liz Ward and Dr Annie Hill; Mrs Lynell Bassett, Director, RBWH Speech Pathology and Audiology Department; the RBWH, Nambour, Hervey Bay and Rockhampton Speech Pathology Departments, and the Telehealth Support Unit; the funding grants received from the RBWH Foundation and AusHSI; and importantly the patients who graciously gave their time to participate in this research.

I feel excited to be able to continue to develop new telehealth services. With the assistance of a 2017 RBWH Post Doctoral Research Fellowship, I am expanding the PhD telehealth model, into an integrated speech pathology and dietetics service, providing home-based and facility-based intervention to RBWH patients with HNC both within Metro North HHS, and statewide. It's wonderful to share my knowledge and experience with clinicians to support the development of similar services in their own health facilities, and I am excited to see the opportunities that technology will bring to optimize health care delivery in the future.

Factors influencing treatment-induced language recovery in chronic, post-stroke aphasia"



Jade Dignam PhD

Summary: This thesis evaluated factors influencing treatment-induced language recovery in adults with chronic, post-stroke aphasia in response to the comprehensive aphasia rehabilitation program, Aphasia LIFT. The influence of individuals' language and cognitive ability as well as the effect of treatment intensity on language and communication outcomes was assessed. Comparable, if not superior, therapy outcomes were found for distributed versus intensive aphasia therapy. Furthermore, individuals' baseline language, cognitive and verbal learning profiles influenced therapy outcomes for anomia. This research advances our understanding of the mechanisms facilitating treatment-induced language recovery and contributes to our understanding of behavioural predictors of aphasia treatment success.

PhD Abstract Natural Recovery of People with Cannabis Use and Psychosis



Dr Shane Rebgetz

Shane, a psychologist who has been working in Child and youth mental health services for 10 years began his PhD studies in 2009. The program of research that underpinned his thesis grew from observations in clinical practice – Shane noticed that some people presenting with psychosis who used cannabis were stopping or reducing use without formal treatment. With a view to informing practice and improving outcomes, Shane set about understanding 'this Natural Recovery'.

Shane describes commencing a PhD in 2009 as '*daunting*', and the processes around getting research running in the service as time consuming. "Navigating the ethical approval and SSA approval processes takes time about 300% longer than first anticipated", he said. Recruitment of participants, dependent on busy clinicians, was also challenging and slower than expected. Shane overcame recruitment and other challenges over the years by establishing relationships with clinicians and showing how the study could be useful to practice. Shane says support of service managers was very important and being able to access SARAS leave enabled him to complete his studies successfully. Reflecting on his experiences Shane noted a progressive openness to research across Metro North MH over recent years and commended managers and clinicians for embracing the challenge. His key 'tip' for others embarking on the research/Phd path is to align research with organisational direction and patient outcomes.

People with psychosis who use cannabis have much worse outcomes, but treatments typically have only limited effects that are poorly sustained. This program of research explored how people with psychosis cease using cannabis without substantial assistance, to see if this shed light on how treatments could be improved. The studies suggested that greater focus on employment, separate accommodation, and social and emotional support for cessation would result in stronger outcomes than at present. Similar reasons were found for strategies to maintain a reduction in use; while relapse was associated with substance using peers, and problems with relationships and negative emotions. The research underpinning the PhD was published in seven papers in journals over three years.