

**Townsville
Hospital
and Health
Service**



Research Annual Report 2018

Townsville Hospital and Health Service Research Annual Report 2018

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MESSAGE FROM THE HEALTH SERVICE CHIEF EXECUTIVE	4	MEDICAL SERVICE GROUP	33
		Telehealth brings drug trials to the region	34
		Amy Brown	35
MESSAGE FROM THE DIRECTOR CLINICAL RESEARCH	5	Dr Kylie Lopes Floro	36
		Andrew McCutchan	37
MESSAGE FROM TRESA UNIT MANAGER & RESEARCH GOVERNANCE OFFICER	6	Professor Damon Eisen	38
		Medical Service Group research publications	39
		Medical Service Group RGO authorised research	43
MESSAGE FROM HUMAN RESEARCH ETHICS COMMITTEE CHAIR	7		
TROPICAL AUSTRALIAN ACADEMIC HEALTH CENTRE (TAAHC)	8	SURGICAL SERVICE GROUP	48
		Junior doctor receives grant for life-saving research	49
		Professor Jonathon Golledge	50
		Venkatesh Aithal	53
NEW FACE FOR RESEARCH ETHICS AT THE TOWNSVILLE HOSPITAL AND HEALTH SERVICE	9	Researcher Highlight: Dr Stephen Gilbert	54
		Dr Soo Yee Teoh	54
TOWNSVILLE HHS SPONSORS TWO INTERNATIONAL CONFERENCES	11	Surgical Service Group research publications	56
		Surgical Service Group RGO authorised research	58
TOWNSVILLE HEALTH RESEARCH SHOWCASE	20	OTHER TOWNSVILLE HHS RESEARCH	61
		Robot concierge ‘Pepper’ trialled at The Townsville Hospital	62
2018 STUDY EDUCATION RESEARCH TRUST ACCOUNT GRANTS	20	Corporate Services: Professor Cate Nagle and Wendy Smythe	63
		Corporate Services: Adjunct Professor Andrew Johnson and Dr Paul Lane	65
RESEARCH ACTIVITY	20	Corporate Services Research Publications	66
		Corporate Services RGO authorised research	67
TOWNSVILLE HEALTH LIBRARY	20	Mental Health Service Group Research Publications	68
		Mental Health Service Group RGO authorised research	68
ALLIED HEALTH SERVICES DIVISION	22	Pathology Queensland: Dr Robert Norton	70
New research to help domestic and family violence victims	23	Pathology Queensland RGO authorised research	71
Researcher Highlight: Mark Gooding	24		
Dr Tilley Pain	25		
Allied Health Services Division research publications	26		
Allied Health Services Division RGO authorised research	27		
HEALTH AND WELLBEING SERVICE GROUP	28		
Dr Yogavijayan Kandasamy	29		
Dr Jason Yates	30		
Health and Wellbeing Service Group research publications	31		
Health and Wellbeing Service Group RGO authorised research	32		



Message from the Health Service Chief Executive

It is my great pleasure to endorse and contribute to the Research Annual Report 2018.

Research is a key pillar of health service delivery and a robust research program is essential for navigating the healthcare challenges of the future.

Every year more and more people look to the public health system for care and health research is essential in finding new and innovative ways to meet this demand.

A major step forward this year has been the establishment of the Tropical Australia Academic Health Centre (TAAHC). The TAAHC forms a research block in North Queensland comprising five northern HHS's (Townsville, Cairns, Mackay, North West and Torres and Cape) along with James Cook University and the Northern Queensland Primary Healthcare Network with a focus on funding research into Indigenous, tropical and rural and remote health as well as chronic disease.

This will harness the collective weight and experience of seven large and respected organisations to enhance research capability and output across North Queensland. We know research is competitive and attracting world-class people is also a challenge particularly in regional areas. By forming an Academic Health Centre, North Queensland hospitals along with the university and PHN will be able to better compete for research funding.

It was a delight to welcome Deputy Premier Jackie Trad and Minister Coralee O'Rourke to open the new \$4.4 million Townsville Institute of Health Research and Innovation (TIHRI) in March 2019.

This modern space takes health research out of cramped clinical offices into a central space surrounded by research support staff who can provide advice about governance, ethics and attracting funding.

Townsville researchers have consistently punched above their weight in delivering nationally recognised research pioneering major breakthroughs that have led to delivering chemotherapy via telehealth, using technology to reduce rates of preventable amputations in diabetics and world-leading treatment methods for jellyfish stings.

The past 12 months has also continued to cement and build upon our research relationship with our neighbours and partners at James Cook University. By working together, we continue to move closer to establishing Townsville as a world-class health and knowledge precinct.

I want to acknowledge the important work done by our research unit and the ground-breaking research done across the Townsville HHS over the past year.

Kieran Keys

Health Service Chief Executive
Townsville Hospital and Health Service



Message from the Director of Clinical Research

THHS clinicians make up a dynamic group that wants to be a part of the research-led healthcare revolution. There are good reasons for this as clinical research improves the lives of our patients and our own satisfaction in working at an organisation that values discovery and innovation. With carefully targeted investment in grant funding, approvals and training, THHS is continually raising the bar for its research output.

Australian researchers have been prolific medical inventors. The country's scientists have been responsible for developing purification methods of penicillin, designing the bionic ear, inventing spray on skin for treating burns and perfecting the electronic pacemaker. The human papilloma virus vaccine was discovered in Brisbane and is the first treatment to prevent cancer. These astounding advances are life-saving and have motivated generations of enquiring clinicians to pursue the next inventions. Seeing the link between a patient problem and a solution may be innate but research training and a supportive environment bring these factors together, enhancing the creative process.

Groups of researchers and their leaders come from all parts of THHS and are doing outstanding work. THHS clinicians work on health problems that are important in our region and all of Australia. It is certain that the knowledge so central to keeping our population healthy is being produced here in Townsville. We can be very proud of the research achievements described in this report for 2018. I hope that you agree that there is much to celebrate and look forward to.

Professor Damon Eisen

Professor of Medicine, James Cook University and Director Clinical Research, Townsville Hospital and Health Service



Message from the Townsville Research Education, Support & Administration (TRESA) Unit Manager and Research Governance Officer

With research at Townsville Hospital and Health Service (THHS) continuing to show a progressive increase THHS is on track to be the leading hospital research centre in Northern Australia, translating novel research into innovative, high-quality patient care.

In 2018, Townsville HHS launched the Research Strategy Plan 2018 – 2022, complemented by the Research Operational Plan 2018 - 2019. The specific goals of the Research Strategy are for Townsville Hospital and Health Service to:

- Build a thriving and sustainable research environment
- Enhance and increase research capacity and capability
- Promote best practice in research governance
- Market and promote Townsville HHS research activity
- Increase the translation of research findings into improved healthcare practices
- Collaborate and partner with other leading researchers and research organisations.

Supporting the Research Strategy Plan, researchers and the Townsville Research Education, Support and Administration (TRESA) Unit staff finally moved in to the \$5 million dedicated research space: The Institute of Health Research and Innovation (TIHRI). It was a long time coming but well worth the wait. The area includes a dedicated clinical trials unit and will enable THHS to conduct Phase I – Phase IV clinical trials and will create new opportunities for synergies and collaboration. Since we all moved in in June 2018 the area has become a hive of activity and creativity as more and more researchers utilise the space.

Our researcher course, offered over 12 weeks and as a two-day block workshop, continues to attract both novice and experienced researchers from throughout Queensland and Northern Territory. The course, which is offered free to all participants, has gained a reputation as a high-quality, comprehensive course with very high Likert scores from all participants.

I was delighted to Chair the Organising Committee for the Australian Ethics Network (AEN) conference and also be a member of the Organising Committee for Australasian Association of Bioethics and Health Law conference, (AABHL), both of which were held in Townsville in 2018 and sponsored by THHS. Hosting international conferences away from the major capital cities is always logistically challenging so it was fantastic to see over 350 delegates attend the conferences from throughout Australia, New Zealand, Singapore and the South Pacific region.

In 2018, THHS authorised 130 research studies, across all health care disciplines and research paradigms, to be conducted with or at THHS. Our research governance review times continue to be within the national benchmark review times and we remain committed to reviewing and authorising research studies in an efficient and timely manner.

I continue to be proud to work in such a supportive research environment and look forward to continuing to assist researchers in their endeavours to improve health care for our patients.

Sue Jenkins-March

Manager, Townsville Research Education, Support & Administration and Research Governance Officer



Message from the Human Research Ethics Committee Chair

The safe and ethical conduct of research with or about people is the focus of Human Research Ethics Committees (HRECs). Ethics committee members weigh the scientific and scholarly merit of research design and the potential risks and benefits to determine the ethical acceptability of studies. All HRECs make these decisions by assessing research proposals against international standards and national guidelines. The National Health and Medical Research Council (NHMRC) provides a robust framework for research integrity in Australia.

In 2018, the NHMRC undertook major updates to our key national guidelines for reviewing, undertaking and monitoring research. The Australian Code for the Responsible Conduct of Research has taken a new principles-based approach, with eight principles that underpin research integrity. The Code will be supported by series of Guides to assist with the application of the new principles. Chapter 3 of the National Statement on Ethical Conduct in Human Research underwent major changes, including new guidance on *The elements of research* (3.1), *Genomic research* (3.3), and *Animal-to-human xenotransplantation* (3.4). New guidelines were released for conducting research with First Nations Peoples, Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities: Guidelines for researchers and stakeholders, and Keeping research on track II. These updated First Nation guidelines reflect changes to the six core values, expands their applicability to all human research rather than health research alone, and

adds valuable information on *Consent, Research agreements, Cultural and intellectual property, and Appropriate cultural competency*.

Some Townsville Hospital and Health Service HREC members attended the locally held Australasian Ethics Network and Australasian Association of Bioethics and Health Law 2018 conferences. Where they were able to expand their knowledge and understanding of emerging ethics issues, and gain expertise in the changes to the guidelines from NHMRC representatives. Our HREC has a wealth of experience, exceeding 120 combined years of membership expertise, and prides itself on maintaining and advancing its diverse knowledge in research methods, integrity and ethics.

Whilst in 2018, we farewelled a fantastic Chairperson, Dr Nikola Stepanov, who stepped down into membership as a legal representative, and we welcomed a new Chair, Dr Kelvin Robertson, a local experienced researcher who doubles as the Townsville Hospital's Clinical Trials Pharmacist. The HREC reviewed 125 research submissions, including local Hospital and Health Services, state departments, and interstate projects. The HREC's review times continue to remain low, less than three weeks for greater than low risk projects, and less than two weeks for low or negligible risk projects. Through its expertise and commitment to research integrity the HREC is proud to contribute to the research excellence of the Townsville Hospital and Health Service.

Message from Tropical Australian Academic Health Centre (TAAHC)

The Tropical Australian Academic Health Centre (TAAHC) is a virtual North Queensland wide collaboration between Cairns Hospital and Health Service (HHS); Mackay HHS; North West HHS; Torres and Cape HHS; Townsville HHS; the North Queensland Primary Health Network; James Cook University and the Australian Institute of Tropical Health and Medicine (AITHM).

The TAAHC partners provide health services and tertiary education to >700 000 people of northern Queensland from Mackay to Torres Strait and west to the Mount Isa region. The total area is over 950,000km², slightly less than the combined area of Victoria and NSW. The region's people represent 50% of Queensland's outer regional, remote and very remote populations and include about 40% of the State's Aboriginal and Torres Strait Islander peoples. The TAAHC partners provide a similar range of healthcare services to metropolitan institutions, but within a different and more challenging context.

Research is critical to ensure that health service investment delivers the best health outcomes efficiently, and TAAHC's aim is to significantly grow this research capacity by:

- Establishing northern Queensland as a leader in health care, research and education in strategic areas aligned with the priority health concerns of the population;
- Delivering innovative models for clinical service, workforce and clinical pathways redesign to reduce costs and better align service with patient needs;
- Underpinning coordination of undergraduate and postgraduate training pathways across the health professions; and
- Enhancing staff recruitment and retention by attracting a larger pool of applicants, enhancing opportunities for career progression and retaining graduates in the region.



NEW FACE FOR RESEARCH ETHICS AT THE TOWNSVILLE HOSPITAL AND HEALTH SERVICE

This year, the Townsville Hospital and Health Service Human Research Ethics Committee welcomed advanced pharmacist Dr Kelvin Robertson as the new Chairperson, following the departure of previous chair Dr Nikola Stepanov. Dr Robertson has been an integral member of the committee for many years, acting as a Deputy Chair since January 2018.

Dr Robertson's health background is Clinical Trials Pharmacy, holding a Masters of Clinical Trial Research and a PhD in pain management of chronic sciatica. Dr Robertson attributes his passion for health research and his interest in research ethics to his role as the Townsville Hospital's Clinical Trials Pharmacist, which he will continue at a reduced capacity. In his career, Dr Robertson also founded the Pharmacy Research Orientated Group, and continues to provide mentoring to budding researchers. There is a lot of enthusiasm for the future and Dr Robertson looks forward to playing a part in innovative and novel research, in combination with teaching, and fostering novice and emerging researchers within the health service.

Dr Robertson sees the opportunity as a chance to give back to his local community. The research arena for the Townsville Hospital and Health Service is very bright, and a major component which underpins safe,

effective and appropriate research involves the ethics committee and research governance. The committee has an important function in ensuring the protection of participants in research. Dr Robertson brings vibrant leadership, with a focus on collaborating with our fantastic ethics committee members as well as maintaining constructive relationships with external stakeholders.

As a champion for excellence in research, Dr Robertson's local knowledge and passion for Townsville's advancement is a welcome addition to the highly certified and benchmark ethics committee. Health research is held in high regard to society, and ethics committees actively promote safe and ethical research practices to ensure excellence. Cutting edge health research provides important information about disease trends and risk factors, outcomes of treatments or public health interventions, functional abilities, patterns of care, and health costs and use. Health research can have an enormous impact on human health and longevity, and the resulting increased productivity of the population contributes greatly at a national level. As such, Dr Robertson's work includes contributing to the Tropical Australian Academic Health Centre, collaborations with James Cook University and national research ethics partnerships.



Staff specialist and Townsville Hospital emergency department lead researcher Dr Hannah Makrides

TOWNSVILLE HHS SPONSORS TWO INTERNATIONAL CONFERENCES



In September 2018, Townsville Hospital and Health Service sponsored two major international conferences: the Australasian Ethics Network (AEN) Conference and the Australasian Association of Bioethics and Health Law (AABHL) conference.

The AEN Conference brought together research ethics committee members, administrators, researchers and research support staff across both academic and health settings, with over 230 delegates. The conference was held under the theme “Bridging the Barriers – Understanding misconceptions.” Despite the introduction of legislation and guidelines for the conduct of research a divide still remains between the public, researchers, and ethics review bodies. For example: do research participants really understand what they are consenting to? Why is consumer engagement not yet fully understood by researchers? What is research integrity? How do we build understanding between what researchers want and what the ethics review bodies need?

These topics were among a diverse range of themes discussed at the 2018 conference, with an aim to bridging the barriers, thus facilitating high-quality

research. Session themes, which were complemented by associated workshops included:

- Developing relationships, engagement and consent
- Embracing and increasing knowledge
- Accountability and integrity.

The AABHL conference, attended by over 150 delegates, provided a platform for open discussion and debate on a range of bioethical issues, including providing a forum where people could ask difficult questions about ideas and practices associated with health and illness, biomedical research and human values.

The conference was held under the theme of ‘Collapsing Borders, the Contested Certainties and the Changing Paradigms.’ The world as we know it is rapidly evolving – truths that were once held close need re-examining as our knowledge expands. The physical and social borders which were once distinct are becoming blurred. Technologies are advancing at a pace that leaves little time for legal or ethical consideration. The 2018 AABHL conference provided an opportunity to reflect on our ever-changing world and to consider the associated ethical dilemmas and questions.

HIGHLIGHTS OF THE 2018 TOWNSVILLE HEALTH RESEARCH SHOWCASE

The 2018 Townsville Health Research Showcase highlighted the impressive research being done in North Queensland and served as an opportunity to staff and students alike to embrace the research opportunities available through Townsville HHS.

Guest Speakers

Dr Rakesh Arora travelled to Townsville from Canada to be the opening plenary speaker and host a workshop about his work in perioperative care of patients undergoing cardiac surgery. Dr Arora pioneered the Canadian Cardiovascular Critical Care Society (CANCARE) which aims to advance the care of critically ill cardiovascular patients using interdisciplinary expertise in a cooperative model.

Dr Natisha Sands and Dr Stephen Elsom hosted a workshop in Using Observational Designs In Health Research and Dr Sands served as the plenary speaker to open Tuesday's abstract presentations. The

workshop presented an overview of observational research including the types of study designs and their application to health research, strengths and limitations of these approaches. Using case studies and examples from observational research the workshop focussed on the practical aspects of such research including developing the research question, tool development, data collection, and ethical considerations with a particular focus on conducting observational research with vulnerable populations.

The program was closed with a plenary speech and workshop from Prof Jonathan Karnon from the University of Adelaide. Professor Karnon spoke about his research career in Health Economics and hosted a workshop on Health Economic Evaluation to Inform Health Service Improvement. The workshop covered the advantages of economic evaluation of health services (as opposed to new drugs and devices); the use of health systems data to estimate the potential value of service improvement and the economic evaluation of alternative models of care.



49

Abstracts presented



27

Posters submitted



110

**Attendees at Research
Networking Dinner**



ABSTRACT WINNERS

The best research presentation of each day of the Showcase was awarded a prize. The 2018 prize winners were:

Best Oral Presentation 3 September 2018:

Correlation between serum cryptococcal antigen titre and meningitis in immunocompetent patients
Dr Ian Gassiep

C Aye, M Armstrong, T Emeto, C Heather and Rob Norton

Best Oral Presentation 4 September 2018:

Townsville clinicians collaborate to improve clarity for neonatal skin injuries: development and pilot of metric graduated colour tool

Deanne L August

I Hitchcock, Yoga Kandasamy, Robyn Ray and Karen New

Best Oral Presentation 5 September 2018:

Quality indicators and outcomes for the management of head and neck cancer at the Townsville Cancer Centre

Dr Kylie Lopes Floro

Venkat Vangaveti, Madhavi Chilkuri

Best Poster Presentation 2018:

The Effects of Continued Smoking in Head and Neck Cancer Patients Treated Radiotherapy: A Systematic Review and Meta-Analysis
Justin Smith

Venkat Vangaveti, Domenico Nastasi, Reece Tso, Torres Woolley, Bronia Renison and Madhavi Chilkuri.

2018 STUDY EDUCATION RESEARCH TRUST ACCOUNT GRANTS

The Townsville Hospital and Health Service Study Education Research Trust Account awarded more than \$600,000 to 19 experienced and novice researchers.



Dr Madhavi Chilkuri

Smoking and its impact on Treatment Outcome and Survival in Head and Neck Cancer Patients: A Longitudinal Observational Study

Dr Chilkuri's study follows Australian Institute of Health and Welfare data which estimated 4,956 new head and neck cancer cases in 2017 in Australia and estimated 1,026 deaths. Her research will explore how smoking contributes to treatment outcomes and survival in head and neck cancer patients.



Ms Amy Brown

Linking research engagement with health system performance: an evaluation of research investment at the Townsville Hospital and Health Service

Ms Brown's study evaluates how engagement with research at the Townsville Hospital and Health Service can contribute to better health outcomes, and analyse the organisational circumstances that develop pathways from research engagement.



Professor Damon Eisen

Testing for benefits of innate immune modulatory therapy using a novel, scabies derived, mannose-binding lectin inhibitory protein.

Professor Eisen's study investigates whether a newly discovered protein from the scabies mite could be useful in reducing the amount of heart or brain tissue destroyed during a heart attack or stroke.



Dr Oliver Hayes

Use of Procalcitonin in Diagnosing and Monitoring Diabetic Foot Cellulitis and Osteomyelitis at The Townsville Hospital—A Pilot Study

Dr Hayes' study determines the usefulness of a serum biomarker in differentiating two common conditions of diabetic foot infections. The serum levels will be used to diagnose and monitor the conditions.



Ms Vidula Garde

Psychological Intervention for Reducing Emergency Department (ED) Representations – A Randomised Controlled Trial (RCT).

Ms Guard's study explores the impact of service provision from ED representations and investigate whether psychological intervention can improve quality of life and reduce psychological distress for patients.



Dr Hannah Makrides

Rapid Acute Paediatric Infection Diagnosis in Suspected Sepsis RAPIDS trial

Dr Makrides research performs a prospective study in acutely ill children presenting to ED and PICUs in Queensland with suspected sepsis, to test feasibility, performance, time-to-diagnosis, and cost impact of applying the most advanced host gene-expression-based sepsis diagnostic tools to acutely ill children.



Dr Tejas Singh

Peak Wall Stress as a prognostic indicator of Abdominal Aortic Aneurysm rupture risk.

Dr Singh's study investigates if peak wall stress (PWS) is greater in patients with ruptured rather than intact Abdominal Aortic Aneurysms of similar diameter and if blood pressure lowering medication thought to limit Abdominal Aortic Aneurysms growth reduces PWS and rupture risk.



Dr Wendy Smyth

Preferences and practices of haemodialysis patients with a central venous catheter for maintaining hygiene: an exploratory study

Dr Smyth's research explores strategies to reduce the risk of infection in haemodialysis patients acquiring central venous catheter and will explore hygiene options to suit individual patient's preferences.

Other studies awarded SERTA grants in 2018:

Dr Andrea Odelli

Thiamine levels post cardiopulmonary bypass

Dr Odelli's study will test if cardiopulmonary bypass results in thiamine depletion and, if so, is it related to increased blood lactate levels in the post-operative period.

Prof Jonathan Golledge

Assessment of the efficacy of a novel treatment for Peripheral Artery Disease

Professor Golledge's study will investigate if metformin will improve health outcomes for patients with peripheral artery disease-related walking impairment.

Dr Tilley Pain

Evaluation of a functional exercise program for people with mild cognitive impairment

Dr Pains' study will pilot the acceptability a cognitive/exercise program (FcTSim) in improving the cognitive functions of older people living in North Queensland.

Dr Mark Wildman

Nasal High Flow Therapy for Children with Acute Hypoxemic Respiratory Failure – a Randomised Controlled Trial

Dr Wildman's study is part of a multi-centre study intends testing if early use of nasal high flow oxygen therapy reduces the length of stay and burden of the Acute Hypoxemic Respiratory Failure(AHRF) and reduces the risk of progression of respiratory distress requiring mechanical ventilation in children one – four years.

Dr Vinay Gangathimmaiah

Predicting Severe Pneumonia in the Emergency Department: A Global Study of the Paediatric Emergency Research Networks (PERN)

Dr Gangathimmaiah's study is part of a large international observational study, the results of which will be used to develop accurate, objective models of prognosis in paediatric community acquired pneumonia(CAP)

Dr Ekta Paw

Fibrin Glue in Skin grafts for Skin cancer (FiGSS)

Dr Paw's study is a randomised controlled trial comparing patient outcomes between grafts secured with sutures or staples to grafts secured with fibrin glue.

Dr Christopher Heather

Real-time nanopore diagnostics for rapid sepsis response

Dr Heather's study is a proof-of-concept study that applies emerging technology to rapid point-of-care diagnosis of pathogens and antibiotic susceptibility in septic patients.

Dr Sarah Page

Liver Compliance by Fibroscan & Cardiac Surgery Outcomes

Dr Pages' study will investigate if liver stiffness and liver fat content assessed using a fibroscan correlate with cardiac surgical outcomes.

Dr Paul Lane

Evaluation of a Peer Support Program Pilot at the Townsville Hospital

Dr Lane's study will evaluate a peer support program around critical incident debriefing training, focussing on mental health first aid, mental health disorders, stress, crisis, critical incidents and trauma.

Dr Paul Chapman

Perseverance with home based practice: the perspectives of stroke survivors in northern Queensland

Dr Chapman's study will explore stroke survivors' perspectives on perseverance with independent practice to promote upper limb recovery.

Dr Andrew Maurice

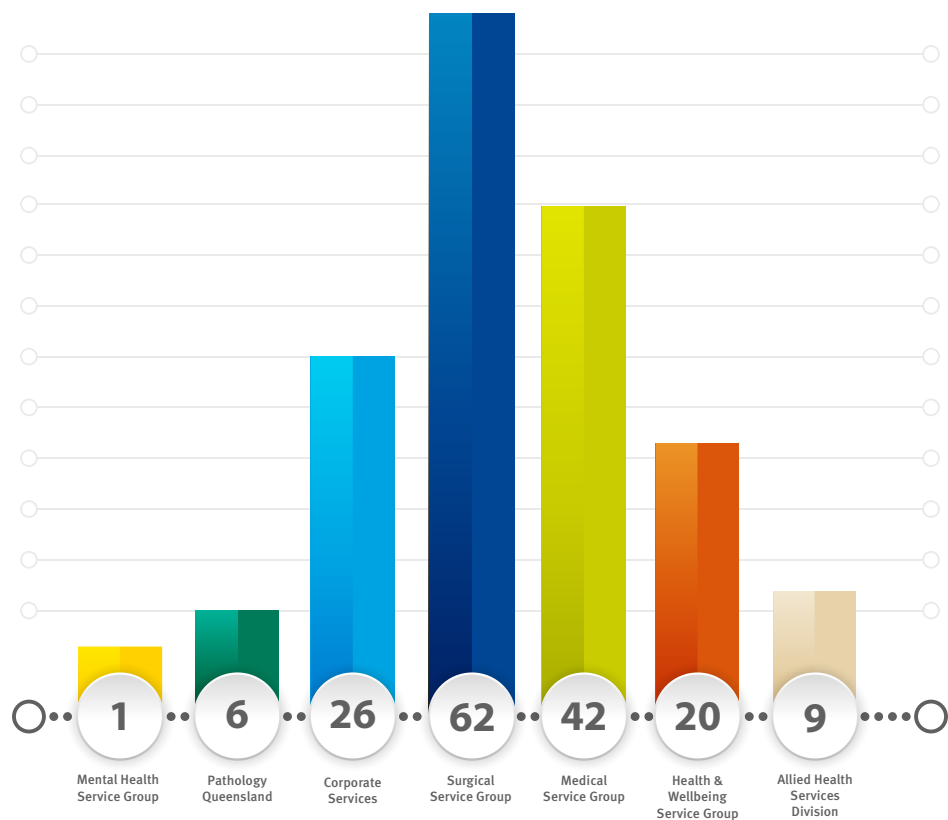
Laparoscopic Appendicectomy versus Antibiotics for Acute Uncomplicated Appendicitis

Dr Maurice's study is a pilot randomised controlled trial comparing laparoscopic appendicectomy versus antibiotics for the treatment of acute uncomplicated appendicitis.

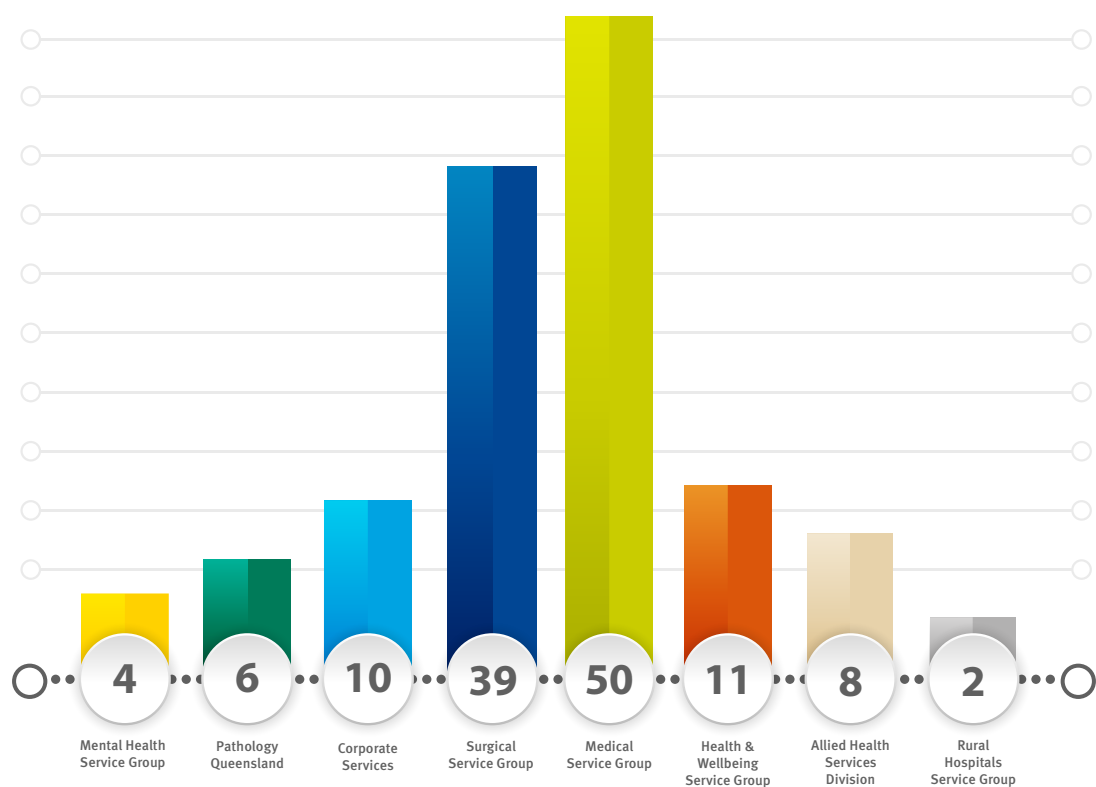


Townsville Hospital paediatrician Dr Jason Yates

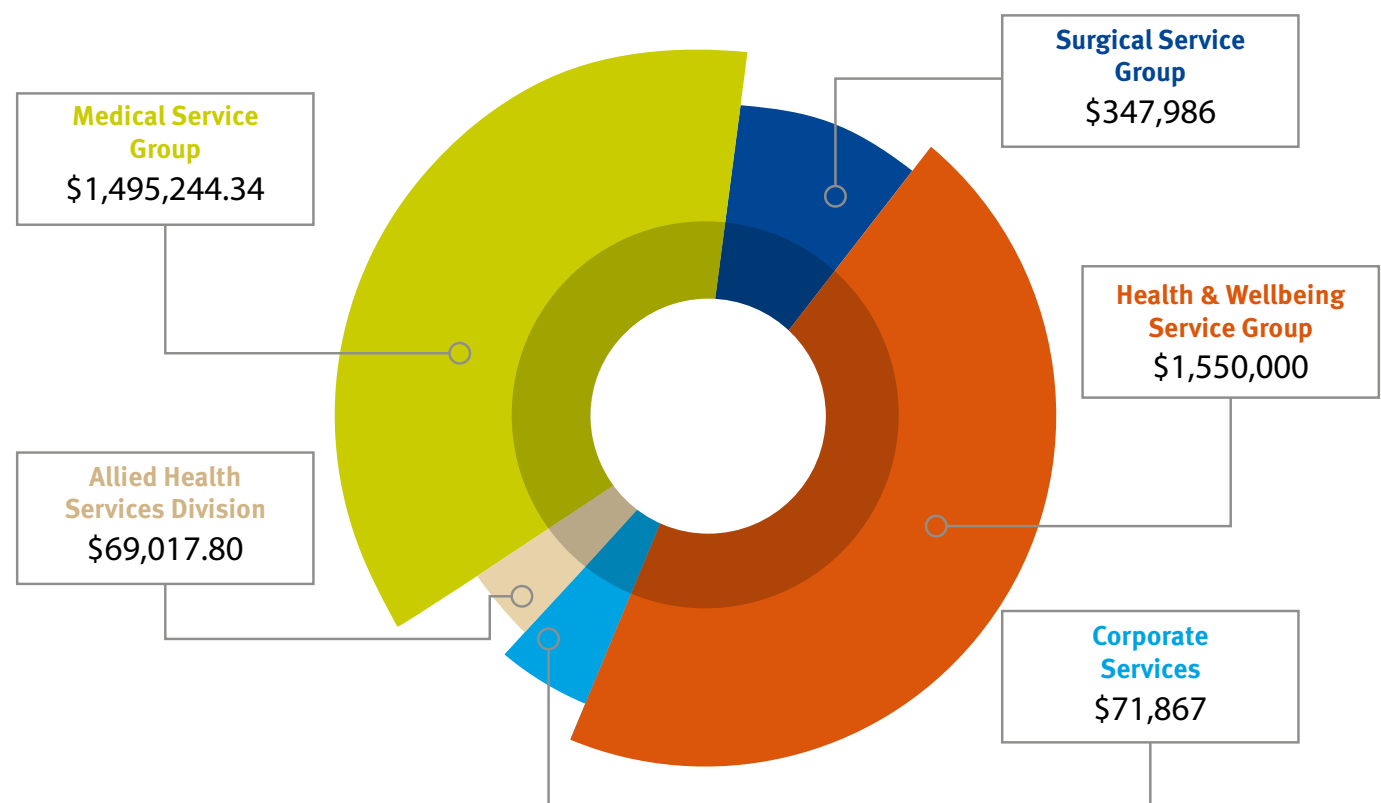
TOTAL PUBLICATIONS: 166



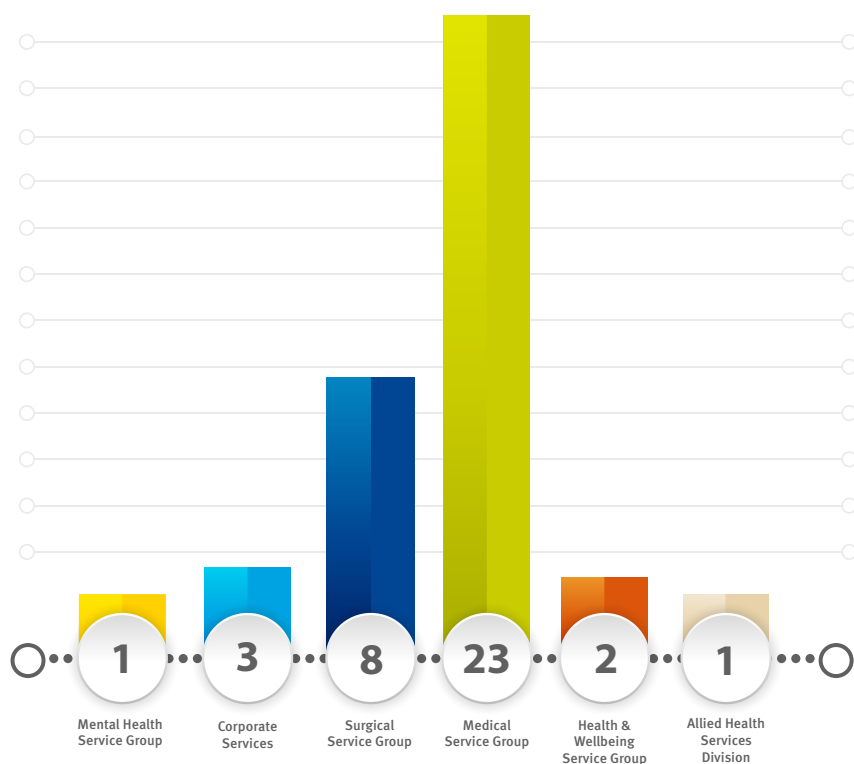
TOTAL RGO AUTHORISED STUDIES: 130



TOTAL REPORTED FUNDING: \$3,534,115.14



TOTAL EXTERNALLY FUNDED AUTHORISED STUDIES: 38





Townsville Health Library

Bronia Renison, Library Director

The Library team works closely with TRESA and Ethics staff to support researchers in all aspects of research. The librarians are familiar with the research application process through being members of the Ethics Committee.

The librarians assist novice and experienced researchers to gather the information required to define and refine their research topic. Search strategies are developed collaboratively for a range of databases and other resources.

Search results are downloaded into EndNote reference manager which provides automatic in-text referencing and bibliographies.

Other services include an expert and swift document supply service (including hard-to-find items) and advice on Journal Impact Factors and selecting the best publication outlet. Services are available at The Townsville Hospital and off-site: search online for Townsville Health Library.



Neurology Consultant Dr Linda Tjoa



Allied Health Services Division

Karen Phillips, Director Allied Health Services

Research in the Allied Health Service Division (AHSD), and more widely across the HP Disciplines, has been increasing steadily since the introduction of the AHPOQ funded HP Research Fellow in 2010. The 2018 calendar year is no exception with a total of: 17 peer reviewed publications with four first author papers from AHSD; eight RGO research project approvals; numerous conference oral and poster presentations; and development of a research monitoring framework.

Allied health research capacity has been built using the communities of practice (COP) framework. Using COP, we have seen the emergence of research hubs in occupational therapy, radiation therapy, pharmacy, speech pathology, community health and mental health. There are 14 staff across six disciplines enrolled in the JCU Doctoral cohort program ensuring research in allied health will continue to grow in to the future. Allied health are now advocating for the introduction of clinician-researcher career pathways.

Allied health research reached some significant milestones in 2018. The milestones include: a community representative was added to a research project investigating mild

cognitive impairment; Kelvin Robertson's convocation of PhD was the first for allied health through the Cohort Program; a NQ Allied Health research community was established in collaboration with Cairns and Mackay HHSs; and the HP Research Fellow organised a national Patient Reported Outcome Measures (PROMs) workshop in Sydney as part of her role on the Executive of the Health Services Research Association of Australia and New Zealand.

Key staff leading COP include Venkatesh and Sreedevi Aithal in audiology, Kelvin Robertson and Stephen Perks in pharmacy, Gail Kingston in occupational therapy, Amy Brown in radiation therapy, Sonja Brennan in medical imaging, and Achamma Joseph in Community Health. Four of these staff have PhDs and the others are enrolled. Collectively, these groups represent diverse research methodologies including experimental design, qualitative methods such as content analysis and interpretive phenomenology, discrete choice experiments, PROMs, health economics and bench research. Our aim is to be proficient in research methods to allow timely and relevant health services research to improve the delivery of services and outcomes of patients.



Social worker Margarita Karpathios with social work director Julie Watson

NEW RESEARCH TO HELP DOMESTIC AND FAMILY VIOLENCE VICTIMS

Townsville Hospital and Health Service staff united with other health services to identify domestic and family violence trends in patients presenting to the emergency department by taking part in a multi-centred study 'Domestic and Family Violence Screening in the Emergency Department.'

“ Ultimately, this research will collect information needed to develop well-informed and structured pathways to ensure the best possible domestic and family violence screening in our emergency departments ”

The project aimed to support victims of domestic and family violence, improve the screening process and strengthen support provided to patients in the

emergency department. Social work director Julie Watson said the Townsville HHS was one of eight sites engaged in the research project.

“Ultimately, this research will collect information needed to develop well-informed and structured pathways to ensure the best possible domestic and family violence screening in our emergency departments. The research will look at who is screening for domestic and family violence, how they are doing it and how often.”

“ We want everyone to feel safe and secure in our hospital and better screening programs will enable us to provide that extra level of support to those who need it most.”



RESEARCHER HIGHLIGHT



Mark Gooding

Assistant Director Physiotherapy

Mark Gooding's research on continued multi-centre research investigating the clinical activity profile of physiotherapy students during clinical placements and the changes in direct patient care activity from physiotherapy student to new graduate continued over 2018. His focus is on investigating the perceptions of physiotherapists regarding the physiotherapy student contribution to the delivery of health services and the perceptions of physiotherapists regarding the transition from student to new graduate and their preparedness for practice.

Research Team:

Susan Stoikov, Metro South HHS - Principal/
Coordinating Investigator

Kassie Shardlow, Metro South HHS – Principal/
Coordinating Investigator

Suzanne Kuys, Australian Catholic University –
Principal/Coordinating Investigator

Research Collaborations:

Metro South Hospital and Health Service
Australian Catholic University

Publications:

1. STOIKOV, S., SHARDLOW, K., GOODING, M. & KUYS, S. 2018. Clinical activity profile of preregistration physiotherapy students during clinical placements. Australian Health Review.

ALLIED HEALTH SERVICES DIVISION

KEY RESEARCHERS



Dr Tilley Pain

Principal Health Practitioner Research Fellow

Research Team:

Luciana Theodoro de Freitas

Research Collaborations:

James Cook University

University of Southern Queensland

North Queensland Primary Health Network

Research Grants:

Grant Name: Study Education Research Trust Account Grant (Co-applicant)

Grant Application Title: Linking research engagement with health system performance: an evaluation of research investment at the Townsville Hospital and Health Service

Grant Amount: \$49,238.80

Grant Name: Study Education Research Trust Account Grant (Chief Applicant)

Grant Application Title: Feasibility of a cognitive exercise program for people with mild cognitive impairment

Grant Amount: \$32,939.30

Grant Name: HP Research Scheme (Co-applicant)

Grant Application Title: Economic evaluation of exercise during dialysis

Grant Amount: \$19,779.00

Publications:

1. PERKS, S. J., ROBINSON, N., PAIN, T. & FRANKLIN, R. 2018. Extended duration infusion temperatures in the tropics: 2 (EDITT2). Journal of Pharmacy Practice and Research.
2. SCUDERI, C. & PAIN, T. 2018. Using confidence assessment to explore physiotherapists, dietitians, speech pathologists and occupational therapists knowledge of medicines. Journal of interprofessional care, 1-5.
3. PAIN, T., PETERSEN, M., FERNANDO, M. 2018 Building Allied Health Research Capacity at a Regional Australian Hospital: A Follow-up Study. Internet Journal of Allied Health Sciences and Practice. Volume 16, Number 4, Article 8.

ALLIED HEALTH SERVICES DIVISION

RESEARCH PUBLICATIONS

1. DROVANDI, A., ROBERTSON, K., TUCKER, M., ROBINSON, N., PERKS, S. & KAIRUZ, T. 2018. A systematic review of clinical pharmacist interventions in paediatric hospital patients. *European Journal of Pediatrics*, 1-10.
2. ROBERTSON, K., MARSHMAN, L. A. G., HENNESSY, M., HARRISS, L. & PLUMMER, D. 2018. Pregabalin versus gabapentin in the treatment of sciatica: Study protocol for a randomised, double-blind, cross-over trial (PAGPROS). *Trials*, 19.
3. ROBERTSON, K., MARSHMAN, L. A. G., PLUMMER, D. & DOWNS, E. 2018. Effect of Gabapentin vs Pregabalin on Pain Intensity in Adults with Chronic Sciatica: A Randomized Clinical Trial. *JAMA Neurology*.
4. SIKDER, S., WILLIAMS, N. L., SORENSON, A. E., ALIM, M. A., VIDGEN, M. E., MORELAND, N. J., RUSH, C. M., SIMPSON, R. S., GOVAN, B. L., NORTON, R. E., CUNNINGHAM, M. W., MCMILLAN, D. J., SRIPRAKASH, K. S. & KETHEESAN, N. 2018. Group G streptococcus induces an autoimmune carditis mediated by interleukin 17A and Interferon γ in the lewis rat model of rheumatic heart disease. *Journal of Infectious Diseases*, 218, 324-335.
5. STOCKWELL-SMITH, G., HOWE, S., LAYTON, K., NAIDOO, O., SANTOSO, Y. & SOLEIL-MOUDI KY-JOH, E. 2018. Hospital discharge processes involving older adults living with dementia: An integrated literature review. *Journal of Clinical Nursing*.
6. STOIKOV, S., SHARDLOW, K., GOODING, M. & KUYS, S. 2017. Clinical activity profile of preregistration physiotherapy students during clinical placements. *Australian Health Review*.

ALLIED HEALTH SERVICES DIVISION

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Liza-Jane McBride	Allied Health Executive Office	Allied Health Workforce Practice Profile Survey	
Amy Ashley	Speech Pathology	Enhancing Speech Pathology Workforce and Service Capabilities to Deliver Services to Patients with Head and Neck Cancer	
Mrs Carolyn Brickhill	Physiotherapy	Investigating the Relationships between Inpatient Rehabilitation Allied Health staff ratios and the delivery of Time Intensive therapy to Stroke Survivors, patient Outcomes, and Rehabilitation length of Stay. The RATIOS study. A Retrospective Audit.	
Dr Tilley Pain	Allied Health Research Fellow	Evaluation of a functional exercise program for people with mild cognitive impairment	Primary Health Network THHS SERTA funding
Ms Luciana Theodoro de Freitas	Occupational Therapy	A survey of Australian Occupational Therapists' role in minimising restraint and seclusion in acute mental health inpatient settings	THHS SERTA funding
Dr Jennifer White	Allied Health Executive Office	The success of research implementation strategies on evidence-based decision-making by allied health managers: a randomised controlled trial	
Ms Julie Watson	Social Work	Domestic and Family Violence Screening in the Emergency Department: Who's doing it? How are they doing it? How often?	
Prof Marco Peres	Dentistry	Delivering effective dental healthcare in 2020-2030: A national longitudinal partnership study of burden of oral diseases in Australia	

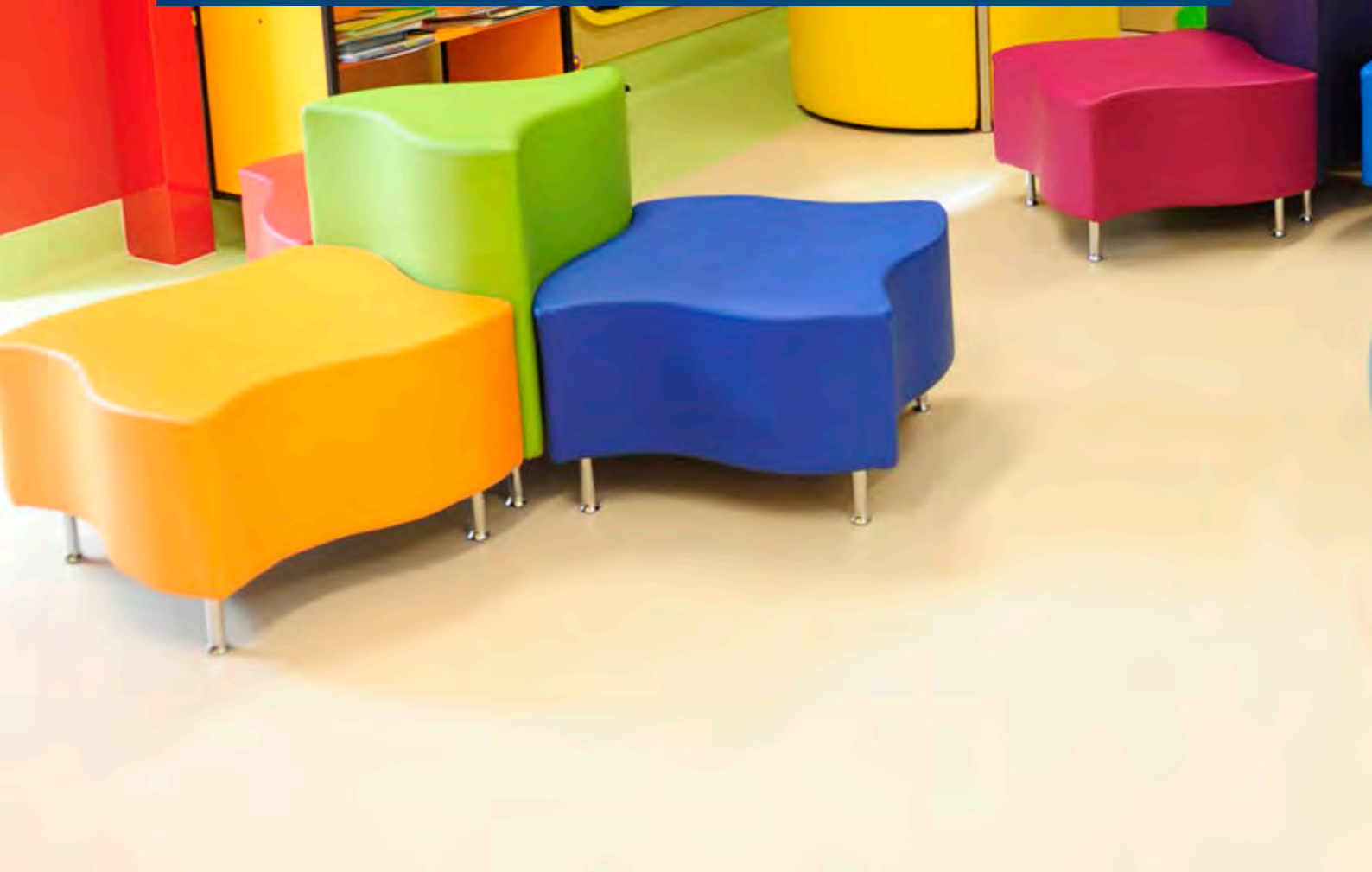


Health & Wellbeing Service Group

Vicki Carson, Service Group Director

Clinicians from the Health and Wellbeing service group have continued to contribute to the evidence-based body of clinical knowledge through publishing in peer reviewed journals. Dr Yoga Kandasamy has led clinicians in the service group through his success in research grants, particularly noting his success with the National Health and Medical Research Commission Project Grant.

The research includes multi-disciplinary co-investigators from varied work spaces and demonstrates Dr Kandasamy's collegial approach to improving perinatal medicine in North Queensland and in the Australian context. Dr Kandasamy's contributions to research and education, professional knowledge and outstanding clinical performance were recognised in 2019 by his appointment as an eminent staff specialist by Queensland Health.



HEALTH & WELLBEING SERVICE GROUP

KEY RESEARCHERS



Dr Yogavijayan Kandasamy

*Eminent Staff Specialist
Neonatology*

Eminent Staff Specialist, Neonatology / Adjunct Associate Professor Dr Kandasamy is a clinician-scientist in the area of perinatal medicine. His research focuses on various aspects of perinatal medicine such as Developmental Origin of Health and Diseases, Prematurity, Aboriginal and Torres Strait Islander Perinatal Health and Telehealth. He has a keen interest in research and training mentorship, and serve in advisory capacity in state, national and international bodies. He is an associate editor for Journal of Child Science and a peer reviewer for Paediatric and Neonatal journals.

Research Team:

Dr Donna Rudd – Co-investigator (JCU)
Dr Meegan Kilcullen – Co-investigator (JCU)
Ms Helena McInnes RN – Research Nurse
Ms Jessica Bowron RN – Research Nurse

Dr David Watson – Co-investigator
Mrs Michelle Evans – Co-investigator
Mrs Sonja Brennan – Co-investigator/PhD Student
Ms Deanne August - Co-investigator/PhD Student

Research Collaborations:

James Cook University
Hunter Medical Research Institute, University of Newcastle
Australian E-Health Research / CSIRO

Research Grants:

Grant Name: National Health and Medical Research Commission Project Grant (NHRMC CIA)

Grant Application Title: The Relationship Between Maternal and Infant Renal Development and Function

Grant Amount: \$1.55 million over 4 years

Publications:

1. KANDASAMY, Y., RUDD, D., LUMBERS, E. R. & SMITH, R. 2018. Female preterm indigenous Australian infants have lower renal volumes than males: A predisposing factor for end-stage renal disease?: Ethnicity, prematurity, gender and renal diseases. Nephrology.
2. KANDASAMY, Y., RUDD, D., SMITH, R., LUMBERS, E. R. & WRIGHT, I. M. R. 2018. Extra uterine development of preterm kidneys. Pediatric Nephrology, 1-6.
3. HUY, D.V., DICKINSON, C., KANDASAMY, Y., 2018 Sex Difference in Mortality for Premature and Low Birth Weight Neonates: A Systematic Review American Journal of Perinatology 35(08): 707-715
4. AUGUST, D., NEW, K., RAY, R., KANDASAMY, Y., 2018 Frequency, location and risk factors of neonatal skin injuries from mechanical forces of pressure, friction, shear and stripping: A systematic literature review. Journal of Neonatal Nursing 24(4);173-180



Dr Jason Yates

Paediatrics

Medical Director Health & Wellbeing Service Group

Research Collaborations:

Murdoch Children's Research Institute – Melbourne

Children's Health Queensland

James Cook University

Publications:

1. EVANS, N., YATES, J., TOBIN, J., MCGILL, J. & HUYNH, T. 2018. Immunoassay interference secondary to therapeutic high-dose biotin: A paediatric case report. *Journal of Paediatrics and Child Health*.
2. KNARSTON, I. M., ROBEVSKA, G., VAN DEN BERGEN, J. A., EGGERS, S., CROFT, B., YATES, J., HERSMUS, R., LOOIJENGA, L. H. J., CAMERON, F. J., MONHIKE, K., AYERS, K. L. & SINCLAIR, A. H. 2018. NR5A1 gene variants repress the ovarian-specific WNT signalling pathway in 46,XX Disorders of sex development patients. *Human mutation*.
3. PATWARDHAN, R., GORTON, S., VANGAVETI, V. N. & YATES, J. 2018. Diabetic ketoacidosis incidence in children at first presentation of type 1 diabetes at an Australian regional hospital: The effect of health professional education. *Pediatric Diabetes*.
4. WALES, J. & YATES, J. 2018. Peer review of rural and tertiary Queensland paediatric diabetes services: A pilot project from the National Health Service. *Journal of Paediatrics and Child Health*.



Registered nurse Helena McInnes and clinical nurse Deanne August

HEALTH & WELLBEING SERVICE GROUP

RESEARCH PUBLICATIONS

1. BUSCHEL, H. & CARROLL, D. 2018. Hypospadias. *Paediatrics and Child Health (United Kingdom)*, 28, 218-221.
2. CHEN, J. C., JENKINS-MARSH, S. & IRELAND, S. 2018. Early-onset group B streptococcal disease in a risk factor-based prevention setting: A 15-year population-based study. *Australian and New Zealand Journal of Obstetrics and Gynaecology*.
3. FORBES-COE, A., JONES, A., CROWE, M., MORGAN, C. & WALKER, K. 2018. Perinatal factors that contribute to the prevalence of cerebral palsy in Townsville, North Queensland. *Journal of Neonatal Nursing*.
4. IRELAND, S., LARKINS, S., RAY, R. & WOODWARD, L. 2018. Adequacy of antenatal steroids, rather than place of birth, determines survival to discharge in extreme prematurity in North Queensland. *Journal of Paediatrics and Child Health*.
5. LEGG, R. G. & LITTLE, M. 2018. Inpatient toxicology services improve resource utilization for intoxicated patients: a systematic review. *British Journal of Clinical Pharmacology*.
6. LITTLE, J., NUGENT, R. & VANGAVETI, V. 2018. Influence of maternal obesity on Bishop Score and failed induction of labour: A retrospective cohort study in a regional tertiary centre. *Australian and New Zealand Journal of Obstetrics and Gynaecology*.
7. NGOO, A., RODRIGUEZ-ACEVEDO, O., CARROLL, D., STALEWSKI, H. & MARIYAPPA RATHNAMMA, B. 2018. Salmonella epididymo-orchitis presenting as acute scrotum in a 2-week-old infant. *Journal of Paediatrics and Child Health*.
8. NGOO, A., SLANEY, C., MARIYAPPARA, B., STALEWSKI, H. & CARROLL, D. 2018. Traumatic pulmonary pseudocysts mimicking a congenital malformation of the lung. *Journal of Pediatric Surgery Case Reports*, 29, 26-29.
9. RIKARD-BELL, J., IYER, J. & RANE, A. 2018. Perineal outcome following educational intervention: a retrospective audit of primiparous women. *Journal of Obstetrics and Gynaecology*.
10. THOMPSON, B. E., NEWSOM, D. & WHITE, A. 2018. Paediatric electroencephalograph: The benefits of guidelines. *Journal of Paediatrics and Child Health*.
11. WEINSTEIN, S. A., MIRTSCHIN, P. J., TRISTRAM, H., LAWTON, L. & WHITE, J. 2018. Local morbidity from red-bellied black snake (*Pseudechis porphyriacus*, Elapidae) envenoming: Two cases and a brief review of management. *Toxicon*, 142, 34-41.
12. ZUBAIR, O. N., CARROLL, D. & GOODALL, K. 2018. Concurrent partial small bowel obstruction and acute appendicitis secondary to play-dough ingestion. *Journal of Pediatric Surgery Case Reports*, 29, 69-70.

HEALTH & WELLBEING SERVICE GROUP

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Dr David Watson	Obstetrics and Gynaecology	Childhood outcomes of STRIDER (NZAus): A Randomised Controlled Trial of Sildenafil Therapy In Dismal Prognosis Early-Onset Intrauterine Growth Restriction (New Zealand and Australia)	University of Auckland
Dr Daniel Carroll	Paediatrics Paediatric Surgery	Hospital anxiety among hospitalised children	
Mr Keita Hada	Paediatrics	Obesity in childhood and adolescence: identification and management of obesity by a regional General Paediatrics service	
Dr Vanaja Sabesan	Paediatrics	Paediatric Acute Resuscitation Planning in the Townsville Hospital	
Dr Nadine Becuzzi	Obstetrics and Gynaecology	Gestational Diabetes screening in future pregnancies after a negative OGTT: a retrospective cohort study	
Ms Cathy Henry	Paediatric Oncology	Parental Perceptions of a Shared Care Model for Paediatric Oncology care in Queensland Australia	
Dr Guan Koh	Neonatal Intensive Care Unit	Bowel Sounds Sensor (BoSS) Project in term newborn babies	THHS SERTA Funding
Dr Ronan McKenna	Paediatric Intensive Care Unit	Parechovirus infections in Queensland children: epidemiology, strain diversity, management and outcomes 2010-2018	
Dr Jacqueline Smith	Neonatal Intensive Care Unit	Neonatal Electronic Resuscitation App Documentation when compared to the current practice of written documentation	
Dr Angela Berkhout	Paediatrics	Paediatric cohort study of Herpes Simplex Infection in early infancy and meningo-encephalitis in Queensland	
Dr Arun Menon	Townsville Sexual Health Service	Prevalence of blood born viruses and sexually transmitted infections among Papua New Guinean men and women aged 17-35 years attending community health clinics in Australia	



Medical Service Group

Dr Aniko Cooker, A/Service Group Director

In 2018 the Medical Service Group continued to support clinical research which is demonstrated by the number of publications and projects undertaken. There were 44 unique research publications and 47 research projects approved. The Medical Service Group recognises and highly values the contribution that research makes to the ongoing development and betterment of patient treatment and care. Staff are supported in their endeavours to conduct research and the

research conducted is both varied and diverse in nature as is noted by the publications and RGO research projects undertaken.

Research is invaluable and complementary to a teaching hospital and the Medical Service Group continues to collaborate with James Cook University on a number of research projects. There is no doubt that the service group will continue to strongly support research into the coming years.



The Townsville Hospital

Townsville Cancer Centre



the Queensland



Department of Health

Townsville Hospital and Health Service director of medical oncology Professor Sabe Sabesan



TELEHEALTH BRINGS DRUG TRIALS TO THE REGION

An Australian-first partnership between North Queensland hospitals is bringing potentially lifesaving cancer drug trials to rural patients. Minister for Health and Minister for Ambulance Services Steven Miles said the tele-trial model was a breakthrough for regional and remote patients. “For the first time all North Queenslanders will have access to the latest drug trials from national and international trial groups and companies,” the Minister said.

“Queensland is leading the way in harnessing the latest technology to bridge the gap between the care we can deliver in our metro areas and what we can offer in regional hospitals”

The Australasian Teletrial Model developed by the Clinical Oncology Society of Australia has been operationalised by a collaboration among the Townsville Cancer Centre, Queensland Cancer

Clinical Network and the Health, Innovation, Investment and Research Office of the Department of Health.

Townsville Hospital and Health Service director of medical oncology Professor Sabe Sabesan, the architect of the model, chairs the Australasian Tele-trial Consortium and Queensland tele-trial working group. The group is rolling out the tele-trial model across Queensland and Australia. Dr Sabesan said Townsville HHS clinical trials Nurse Unit Manager Melanie Poxton and Townsville Research Manager Sue Jenkins-Marsh had been critical in establishing the tele trial model.

“In the past, drug companies have predominately targeted metro areas because the reach of potential patients was much higher,” Dr Sabesan said. “By linking areas of North Queensland, we can increase the availability of suitable patients and really incentivise attracting cutting-edge trials to our communities. There has been significant progress in treating cancers and it is important our communities are able to access the latest developments.”

MEDICAL SERVICE GROUP

KEY RESEARCHERS



Amy Brown

Radiation Therapist Research Fellow, Townsville Cancer Centre

Amy Brown is a radiation therapist and currently in the Research Fellow (Cancer Services) role at Townsville Cancer Centre. Her research interests include prostate cancer, image guidance and quality of life of cancer patients, with an emerging interest in health economics and patient preferences. This is reflected in her current PhD project “Health Technology Assessment of The Clarity Autoscanner System: Motion Correction and Margin Reduction in Radiation Therapy Treatment of Prostate Cancer” which includes an economic evaluation and qualitative component in addition to a clinical randomised control trial.

A major focus of research at Townsville Cancer Centre is in teleoncology, evaluating the use of telehealth in oncology, including medical oncology and radiation oncology.

A highlight in 2018 was the publication of “Enhancing Chemotherapy Capabilities in Rural Hospitals: Implementation of a Telechemotherapy Model (QReCS) in North Queensland, Australia” in Journal of Oncology Practice.

In a collaborative project between THHS, JCU and University of Adelaide, SERTA funding was granted for the project “Linking Research Engagement with Health System Performance: An Evaluation of Research Investment at The Townsville Hospital and Health Service”, to be completed in 2019.

Research Collaborations:

James Cook University

The University of Adelaide

Research Grants:

Grant Name: Study Education Research Trust Account (SERTA)

Grant Application Title: Linking Research Engagement with Health System Performance: An Evaluation of Research Investment at The Townsville Hospital and Health Service

Grant Amount: \$49,238.00

Publications:

1. BROWN, A., TAN, A., COOPER, S. & FIELDING, A. 2018. Obesity does not influence prostate intrafractional motion. Journal of Medical Radiation Sciences
2. SABESAN, S., SENKO, C., SCHMIDT, A., JOSHI, A., PANDEY, R., RYAN, C.A., LYLE, M., RAINEY, N. VARMA, S., OTTY, Z., ANSARI, Z., VAUGHAN, K., VANGAVETI, V., BLACK, J., BROWN, A., 2018. Enhancing Chemotherapy Capabilities in Rural Hospitals: Implementation of a Telechemotherapy Model (QReCS) in North Queensland, Australia. Journal of Oncology Practice. 14(7)



Dr Kylie Lopes Floro

Radiation Oncology

Dr Kylie Lopes Floro is examining the impact of cigarette smoke on cancer stem cells and addressing if:

1. cigarette smoke influences the number of cancer stem cells in oropharyngeal cancers at diagnosis or
2. cancer cells are more likely to form cancer stem cells during radiation therapy in smokers.

Not all cancer cells have the capacity to metastasize. This property is the domain of cancer stem cells which make up on a small proportion of a cancer. Interestingly, radiation, a treatment for cancer, can also induce cancer cells to become cancer stem cells in vitro. Cigarette smokers have an increased risk of local-regional recurrence and the development of metastases. Cigarette smoke can induce the expression of genes seen in stem cells and can promote proliferation of cells in vitro.

Research Team:

Dr Kylie Lopes Floro - Lead Investigator

Dr Madhavi Chilkuri - Co-Investigator

Dr Lionel Hebbard - Co-Investigator (JCU)

Dr Vibooshini Ganeshalingam – Intern, Managing recruitment database

Mr Justin Smith - Medical Student – Cell culture

Ms Ashley Shackelford - Radiation Therapist – Cell irradiation

Research Collaborations:

James Cook University

Research Grants:

Grant Name: The Royal Australian College of Radiologists

Grant Application Title: The role of smoking on oral-pharyngeal cancer stem cells (CSCs) and their response to radiation therapy.

Grant Amount: \$19,998.50

Publications:

1. LOPES FLORO, K., MUNCKHOF, W. & COUCHER, J. 2018. Retrospective review of CT-guided intervertebral disc biopsies performed at a tertiary referral centre for suspected osteodiscitis. *Journal of Medical Imaging and Radiation Oncology*, 62, 307-312.



Andrew McCutchan

Supervising Scientist – Stem Cell Laboratory

Andrew McCutchan was part of a team studying delayed neutrophil engraftment after autologous haematopoietic stem cell transplantation (ASCT) and associated infectious complications. The investigation looked at the relationship between the infused CD34+ stem cell dose and neutrophil engraftment after ASCT in patients with lymphoma or multiple myeloma. A novel approach was employed to more accurately calculate time to neutrophil engraftment in hours rather than days. Secondary factors (treatment and patient-related factors) that may have impacted on neutrophil recovery were also evaluated.

A significant correlation between CD34+ dose and time to extrapolated neutrophil engraftment ($P < 0.01$) was found. Our cohort of 112 patients showed a relatively early time of neutrophil engraftment of 9 days and 1 hour, compared with 12 or 13 days in some studies. This may be explained by our institutional policy to commence G-CSF on day +1 post-transplant.

Patient age, conditioning regimen, and presence of bacteraemia were not associated with delayed engraftment. The study provides interesting scientific data, and confirms the safety and efficacy of our transplant program.

Research Team:

Karthik Nath - Conceptualization, Data curation, Investigation, Formal analysis, Writing – review and editing, Project administration

Rachael Boles - Investigation, Formal analysis, Writing – original draft

Venkat Vangaveti – Formal analysis, Writing – review and editing

Andrew Birchley - Supervision, Validation, Writing – review and editing

Ian Irving - Conceptualization, Supervision, Validation, Writing – review & editing

Research Collaborations:

James Cook University

Publications:

1. NATH, K., BOLES, R., MCCUTCHAN, A., VANGAVETI, V., BIRCHLEY, A. & IRVING, I. 2018. The relationship between CD34+ stem cell dose and time to neutrophil recovery in autologous haematopoietic stem cell recipients—A single centre experience. Transfusion and Apheresis Science.



Professor Damon Eisen

Professor of Medicine, James Cook University and Director Clinical Research, Townsville Hospital and Health Service

Professor Eisen's conjoint positions at The Townsville Hospital and JCU involve building clinical research capacity and translation pathways focused on improving quality and efficiency of service delivery aligned with identified health needs and priorities. Prof Eisen's laboratory group works on translational science projects with demonstrated paths to implementation of novel therapeutics.

Developing Northern Queensland's clinical research capacity through data linkage

Prof Eisen is leading a development team working on a region-wide relational database linking numerous information sources to assess patient outcomes. This database of 41,000 patients includes 26 million records and will be used to measure factors that influence health outcomes. It will be possible to examine numerous clinical hypotheses and develop an evidence base to proceed to interventional trials. The team includes clinicians, epidemiologists, health economists and biostatisticians.

Early studies utilising this database have; explored the type and severity of infections due to *Acinetobacter cloacae*, a cause of severe blood stream and chest

infections prevalent in Northern Australia and examined the connection between delays in antibiotics and death or disability in patients with meningitis.

Leading development of new treatments using known compounds

Prof Eisen's ANTISEPSIS RCT of low-dose aspirin for prevention of deaths due to sepsis is the first to investigate the effectiveness of a broadly applicable sepsis prevention strategy. ANTISEPSIS will analyse 95,000 patient years of data to assess its primary endpoint of reduction of deaths due to sepsis in aspirin treated patients.

Clinical trials from the Australasian Society of Infectious Diseases

Prof Eisen is the lead recruiter to an Australian-wide RCT of antibacterial therapy for severe *Staphylococcus aureus* infection in adult patients.

Understanding prosthetic joint biofilm infections and exploring new therapies

Prof Eisen is leading a team of scientists who are studying aspirin and NSAIDs to see if they can improve the response of prosthetic joint infections to antibiotics. After careful testing in the test tube, Prof Eisen's team are using a mouse model of joint infection to take these experiments to the next level. Studies of the amount of aspirin that is present in the knee fluid at the time of surgery are also being undertaken.

Novel use of mannose binding lectin (MBL) therapy Reducing ischaemia reperfusion injury

Prof Eisen is currently leading a program of preclinical work investigating MBL's potential to reduce 'ischaemia reperfusion injury' that leads to myocardial and brain tissue loss in vascular events. This project will use MBL blocking proteins produced by the scabies mite in animal models of stroke.

Competitive grant income 2018

Queensland Genomic Health Alliance. Infectious Disease Clinical Portfolio; Innovation grant. Pathogen Genomics in North QLD. 2018, \$320,000
Medical Counter Measures - The Defence Materials Technology Centre: GPIVax: A Pan-Species, Multi-Stage Universal Malaria Vaccine. 2018 \$1,078,000

Research Team:

Wilna van der Watt
Dr Stephanie Hendry
Dr Elizabeth Hamilton
Miriam Harings
Varun Sethi
Dr Oyelola Adegboye
Dr Peter Mulvey
Narayan D Pantt

Research Collaborations:

Aspirin to Prevent Events in the Elderly – Department of Epidemiology and Preventive Medicine, Monash University, Melbourne
Department of Critical Care Research – Royal Brisbane and Womens Hospital, University of QLD
Orthopaedics Research Institute of Queensland
Prof Emma McBryde - Professorial Research Fellow - Infectious Disease and Epidemiology, James Cook University - Australian Institute of Tropical Health & Medicine - Centre of Tropical Bioinformatics and Molecular Biology

MEDICAL SERVICE GROUP RESEARCH PUBLICATIONS

1. BABL, F. E., LYTTLE, M. D., BRESSAN, S., BORLAND, M. L., PHILLIPS, N., KOCHAR, A., DALTON, S., CHEEK, J. A., GILHOTRA, Y., FURYK, J., NEUTZE, J., DONATH, S., HEARPS, S., ARPONE, M., CROWE, L., DALZIEL, S. R., BARKER, R. & OAKLEY, E. 2018. Penetrating head injuries in children presenting to the emergency department in Australia and New Zealand: A PREDICT prospective study. *Journal of Paediatrics and Child Health*.
2. BABL, F. E., OAKLEY, E., DALZIEL, S. R., BORLAND, M. L., PHILLIPS, N., KOCHAR, A., DALTON, S., CHEEK, J. A., GILHOTRA, Y., FURYK, J., NEUTZE, J., DONATH, S., HEARPS, S., CROWE, L. M., ARPONE, M., BRESSAN, S. & LYTTLE, M. D. 2018. Accuracy of NEXUS II head injury decision rule in children: A prospective PREDICT cohort study. *Emergency Medicine Journal*.
3. BABL, F. E., PFEIFFER, H., DALZIEL, S. R., OAKLEY, E., ANDERSON, V., BORLAND, M. L., PHILLIPS, N., KOCHAR, A., DALTON, S., CHEEK, J. A., GILHOTRA, Y., FURYK, J., NEUTZE, J., LYTTLE, M. D., BRESSAN, S., DONATH, S., HEARPS, S. J. C. & CROWE, L. 2018. Paediatric intentional head injuries in the emergency department: A multicentre prospective cohort study. *EMA - Emergency Medicine Australasia*.
4. BACHMEIER, C. A. E. & MALABU, U. 2018. Rare case of meningococcal sepsis-induced testicular failure, primary hypothyroidism and hypoadrenalism: Is there a link? *BMJ Case Reports*, 2018.
5. BORLAND, M. L., DALZIEL, S. R., PHILLIPS, N., DALTON, S., LYTTLE, M. D., BRESSAN, S., OAKLEY, E., HEARPS, S. J. C., KOCHAR, A., FURYK, J., CHEEK, J. A., NEUTZE, J. & BABL, F. E. 2018. Vomiting with head trauma and risk of traumatic brain injury. *Pediatrics*, 141.
6. BOYER, P. N., DEVLIN, M. & BOGGILD, M. 2018. Rare and rarer: Co-occurrence of stroke-like migraine attacks after radiation therapy and Charles Bonnet syndromes. *Oxford Medical Case Reports*, 2018, 349-352.
7. BROWN, A., TAN, A., COOPER, S. & FIELDING, A. 2018. Obesity does not influence prostate intrafractional motion. *Journal of Medical Radiation Sciences*.
8. CHU, K. H., KEIJZERS, G., FURYK, J. S., ELEY, R. M., KINNEAR, F. B., THOM, O. N., HOWELL, T. E., MAHMOUD, I., TING, J. Y. S. & BROWN, A. F. T. 2018. Applying the Ottawa subarachnoid haemorrhage rule on a cohort of emergency department patients with headache. *European journal of emergency medicine : official journal of the European Society for Emergency Medicine*, 25, e29-e32.

9. CILA, A., SMITH, S., ARMSTRONG, M. R., HENDRY, S. J. & HANSON, J. 2018. Successful outpatient management of *Campylobacter fetus* bacteremia in an immunocompetent patient with endovascular involvement. *IDCases*, 14.
10. CLEMENCE, M. C. S., HENDERSON, A., GREENBURY, C. B., NORTON, R. E. L. & FURYK, J. 2018. A survey of the antibiotic prescribing practices of doctors in an Australian Emergency Department. *Infection, Disease and Health*.
11. CROWE, L. M., HEARPS, S., ANDERSON, V., BORLAND, M. L., PHILLIPS, N., KOCHAR, A., DALTON, S., CHEEK, J. A., GILHOTRA, Y., FURYK, J., NEUTZE, J., LYTTLE, M. D., BRESSAN, S., DONATH, S., MOLESWORTH, C., OAKLEY, E., DALZIEL, S. R. & BABL, F. E. 2018. Investigating the Variability in Mild Traumatic Brain Injury Definitions: A Prospective Cohort Study. *Archives of Physical Medicine and Rehabilitation*.
12. DALZIEL, K., CHEEK, J. A., FANNING, L., BORLAND, M. L., PHILLIPS, N., KOCHAR, A., DALTON, S., FURYK, J., NEUTZE, J., DALZIEL, S. R., LYTTLE, M. D., BRESSAN, S., DONATH, S., MOLESWORTH, C., HEARPS, S. J. C., OAKLEY, E. & BABL, F. E. 2018. A Cost-Effectiveness Analysis Comparing Clinical Decision Rules PECARN, CATCH, and CHALICE With Usual Care for the Management of Pediatric Head Injury. *Annals of Emergency Medicine*.
13. FORBES, J. 2018. Thriving, not just surviving: Well-being in emergency medicine. *EMA - Emergency Medicine Australasia*.
14. FRANKLIN, D., BABL, F. E., SCHLAPBACH, L. J., OAKLEY, E., CRAIG, S., NEUTZE, J., FURYK, J., FRASER, J. F., JONES, M., WHITTY, J. A., DALZIEL, S. R. & SCHIBLER, A. 2018. A randomized trial of high-flow oxygen therapy in infants with bronchiolitis. *New England Journal of Medicine*, 378, 1121-1131
15. FURYK, J., FRANKLIN, R., WATT, K., EMETO, T., DALZIEL, S., MCBAIN-RIGG, K., STEPANOV, N. & BABL, F. E. 2018. Community attitudes to emergency research without prospective informed consent: A survey of the general population. *EMA - Emergency Medicine Australasia*.
16. FURYK, J., LEVAS, D., CLOSE, B., LASPINA, K., FITZPATRICK, M., ROBINSON, K., VANGAVETI, V. N. & RAY, R. 2018. Intravenous versus oral paracetamol for acute pain in adults in the emergency department setting: A prospective, double-blind, double-dummy, randomised controlled trial. *Emergency Medicine Journal*, 35, 163-168.
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21. MAW, G. & FURYK, C. 2018. Pediatric massive transfusion: A systematic review. *Pediatric Emergency Care*, 34, 594-598.
22. MORRISROE, K., SODEN, M., & WOOD, N. 2018. EVOLVE: The Australian Rheumatology Association's 'top five' list of investigations and interventions doctors and patients should question. *Internal Medicine Journal*, 48, 135-143.
23. PALACE, J., DUDDY, M., LAWTON, M., BREGENZER, T., ZHU, F., BOGGILD, M., PISKE, B., ROBERTSON, N. P., OGER, J., TREMLETT, H., TILLING, K., BEN-SHLOMO, Y., LILFORD, R. & DOBSON, C. 2018. Assessing the long-term effectiveness of interferon-beta and glatiramer acetate in multiple sclerosis: Final 10-year results from the UK multiple sclerosis risk-sharing scheme. *Journal of Neurology, Neurosurgery and Psychiatry*.
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25. PANDIT, T., RAY, R. A. & SABESAN, S. 2018. Managing Emergencies in Rural North Queensland: The Feasibility of Teletraining. *International Journal of Telemedicine and Applications*, 2018.
26. PANDIT, T., SABESAN, S. & RAY, R. A. 2018. Medical emergencies in rural North Queensland: Doctors perceptions of the training needs. *Australian Journal of Rural Health*.
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28. PINIDIYAPATHIRAGE, J., KITCHENER, S., MCNAMEE, S., WYNTER, S., LANGFORD, J., DOYLE, A. & MCMAHON, A. 2018. Analysis of agriculture-related life-threatening injuries presenting to emergency departments of rural generalist hospitals in Southern Queensland. *EMA - Emergency Medicine Australasia*.
29. RODRIGUES, B. T., VANGAVETI, V. N. & MALABU, U. H. 2018. Response to: Comment on "prevalence and Risk Factors for Diabetic Lower Limb Amputation: A Clinic-Based Case Control Study". *Journal of Diabetes Research*, 2018.
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34. TAYLOR, E., MORRIS, K., ELLIS, M., MARLTON, P., BAVESHI, K., CLAREY, J., IRVING, I., COCHRANE, T. & KENNEDY, G. 2018. FLT3-ITD positive acute myeloid leukemia: A retrospective analysis of the role of allogeneic transplant and allelic ratio in patient management. *Asia-Pacific Journal of Clinical Oncology*
35. TEOH, S. Y. & VANGAVETI, V. N. 2018. Repeated hyperbaric exposure and glass ampoule safety. *Diving and Hyperbaric Medicine*, 48, 107-109.
36. THAMPI, A., FORBES, J. & HUMPHREY, K. 2018. Protected clinical support time should be a given: Yes. *EMA - Emergency Medicine Australasia*.
37. VERMA, R., MATICH, P., SYMMONS, D. & VANGAVETI, V. 2018. Review article: Antiemetics in the pre-hospital setting: A systematic review of efficacy and safety. *EMA - Emergency Medicine Australasia*.
38. VERMA, R., PATHMANATHAN, S., OTTY, Z. A., BINDER, J., VANGAVETI, V. N., BUTTNER, P. & SABESAN, S. S. 2018. Delays in lung cancer management pathways between rural and urban patients in North Queensland: a mixed methods study. *Internal Medicine Journal*, 48, 1228-1233.



Nurse endoscopists Mary Magnani and Kylie Ashley

MEDICAL SERVICE GROUP

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Dr Madhavi Chilkuri	Radiation Oncology	Smoking and its Impact on Treatment Outcome and Survival In Head and Neck Cancer Patients: A Longitudinal Observational Study	SERTA
	Nutrition & Dietetics		JCU
Dr Georgina Hodges	Medical Oncology	A Multicentre Phase 3 Trial Comparing Elotuzumab-Cyclophosphamide-Thalidomide-Dexamethasone (E-CTD) with Cyclophosphamide-Thalidomide-Dexamethasone (CTD) for the Treatment of Relapsed and/or Refractory Multiple Myeloma (RRMM)	Australasian Leukaemia & Lymphoma Group (ALLG)
Dr Georgina Hodges	Medical Oncology	Treatment optimisation trial in the first-line treatment of advanced stage Hodgkin Lymphoma; comparison of 4-6 cycles of escalated BEACOPP with 4-6 cycles of BrECADD.	Australasian Leukaemia & Lymphoma Group (ALLG)
Prof Damon Eisen	Infectious Diseases	CASSETTE	
Mr Kirk Jurgens	Respiratory and Sleep Unit	Molar Mass trace from Ultrasonic Pneumography (UPG) is as effective in determining the severity of Chronic Obstructive Pulmonary Disease (COPD) assessed by conventional Respiratory Function Testing.	
Dr Hock Chong Lai	Medical Oncology	A Phase 3 trial of thalidomide-dexamethasone consolidation versus thalidomide-dexamethasone-Ixazomib consolidation for transplant eligible multiple myeloma patients undergoing a single ASCT as part of front-line therapy	Australasian Leukaemia & Lymphoma Group (ALLG)
Prof Matthew Brown	Oncology	Assessing the Impact of Genomics on Cancer: Clinical Care and Patient Outcomes	
Mrs Judith Singleton	Pharmacy	Impact of Cyclones on Continuation of Opioid Replacement Therapy Service to Patients in Queensland	

Principal Investigators	Department	Study Title	Funding Source
Dr Swetha Rangaswamaiah	Endocrinology	Effectiveness of glycemic control in adult patients with Diabetes Mellitus at the Rapid Stabilisation Clinic(RSC) of The Townsville Hospital	
Miss Sophie Mokrzecki	Pharmacy	Prescribing the perfect prescription - Improving the prescribing skills of final year medical students	
A/Prof Venerina Johnston	Emergency	Functional Outcomes following a Road Traffic Crash	
Dr Hock Chong Lai	Haematology	A Multicentre retrospective analysis of outcomes of relapsed/refractory Hodgkins lymphoma patients undergoing salvage treatment followed by high dose therapy autologous HPC transplantation	
Gillian Mahy	Gastroenterology	The natural history of inflammatory bowel disease: a longitudinal study of disease aetiology, pathogenesis and outcomes	
Dr Kate Celkys	Rheumatology	Rates of serious infections in patients with rheumatic diseases exposed to biological disease modifying anti-rheumatic drugs (biologics)	
Miss Amanda Frier	Ms Robyn Chadwick	Incorporating social determinants of health into the clinical management	
Prof Sandra Thompson	Oncology	Innovative Models of Cancer Care for Indigenous Australians	
Dr Damon Eisen	Infectious Diseases	The association between time-to-antibiotics and adverse clinical outcome among patients with acute community-acquired bacterial meningitis: Systematic review and individual patient-data meta-analysis.	
Dr Vinay Gangathimmaiah	Emergency	Predicting Severe Pneumonia in the Emergency Department: A Global Study of the Paediatric Emergency Research Networks (PERN)	THHS SERTA
Emma Marten	Pharmacy	Haemodialysis adherence and outcomes.	
Anna Morgan	Palliative Care Services / Cancer Services	Referrals to a regional Palliative Care Centre: who is accessing care.	

Principal Investigators	Department	Study Title	Funding Source
Dr Zulfiquer Otty	Medical Oncology	A Randomized, Double-blind, Placebo-controlled, Phase 3 Study of Nivolumab or Nivolumab plus Cisplatin, in Combination with Radiotherapy in Participants with Cisplatin Ineligible and Cisplatin Eligible Locally Advanced Squamous Cell Carcinoma of the Head and Neck(SCCHN).	Bristol-Myers Squibb Australia Pty Ltd
Dr Mohammadali Zad	Gastroenterology	Relation between 6-thioguanine nucleotides and red cell mean corpuscular volume and lymphocyte in patients treated with azathiopurine and 6 mercaptopurine	
Dr Rachel Norton	Gerontology	Osteoporosis Secondary Prevention at The Townsville Hospital	
Prof Damon Eisen	Infectious Diseases	Measuring Aspirin Penetration into Synovial Fluid to Assess it Potential for Prevention of Prosthetic Joint Infection.	THHS SERTA
Dr Suresh Varma	Medical Oncology	Phase II study of Intravenous Vinorelbine in Patients with Relapsed Platinum Resistant or Refractory C5 High Grade Serous, Endometrioid, or Undifferentiated Primary Peritoneum, Fallopian Tube or Ovarian Cancer (VIP)	ANZGOG
Ms Michellina Davies	Professional Nursing & Midwifery Services	Prevalence of Advance Care Directives in Australian Health and Residential Aged Care Services	
Dr Suresh Varma	Medical Oncology	A Randomized Phase 3 Study of Nivolumab plus Ipilimumab or Nivolumab Combined with Fluorouracil plus Cisplatin versus Fluorouracil plus Cisplatin in Subjects with Unresectable Advanced, Recurrent or Metastatic Previously Untreated Esophageal Squamous Cell Carcinoma	Bristol-Myers Squibb Australia Pty Ltd
Dr Kylie Lopes Floro	Radiation Oncology	The effect of cigarette smoke on oral-pharyngeal cancer cells	RANZCR Research Grant
Dr Abhishek Joshi	Medical Oncology	An open-label randomised phase 3 study to evaluate enfortumab vedotin vs chemotherapy in subjects with previously treated locally advanced or metastatic urothelial cancer Protocol No: 7465-CL-0301	Paraxel International Pty Ltd
Dr Hock Chong Lai	Townsville Cancer Centre	A Phase IIA Dose Optimisation Study of ASLAN003 in Acute Myeloid Leukemia	IQVIA

Principal Investigators	Department	Study Title	Funding Source
Dr Corrine Ryan	Townsville Cancer Centre	ICON 9 - An international phase III randomised study to evaluate the efficacy of maintenance therapy with olaparib and cediranib or olaparib alone in patients with relapsed platinum-sensitive ovarian cancer following a response to platinum-based chemotherapy.	University of Sydney acting through the NHMRC Clinical Trials Centre
Dr Georgina Hodges	Townsville Cancer Centre	An international, multicentre non-interventional, retrospective study to describe treatment pathways, outcomes and resource use in patients with classical hodgkin lymphoma	IQVIA RDS Pty Limited
Dr Suresh Varma	Townsville Cancer Centre	A Phase 3, Global, Multi-Center, Double-Blind, Randomized, Efficacy Study of IMAB362 Plus mFOLFOX6 Compared with Placebo Plus mFOLFOX6 as First-line Treatment of Subjects with Claudin (CLDN)18.2-Positive, HER2-Negative, Locally Advanced Unresectable or Metastatic Gastric or Gastroesophageal Junction (GEJ) Adenocarcinoma	Parexel International Pty Ltd
Dr Suresh Varma	Townsville Cancer Centre	A Phase 3, Double Blind, Randomised Study Of BGB 290 versus Placebo as Maintenance Therapy in Patients with Inoperable Locally Advanced or Metastatic Gastric Cancer that Responded to Platinum-based First-line Chemotherapy	BeiGene Aus Pty Ltd
Dr Jeremy Furyk	Emergency	How are we managing acute asthma in children? A PREDICT study.	EMF Funding
Dr Hock Chong Lai	Townsville Cancer Centre	A Phase III Randomised, double Blinded Trial to evaluate the efficacy of uproleselan administered with chemotherapy versus chemotherapy alone in patients with relapsed/refractory Acute Myeloid Leukemia	CPR Pharma Services
Dr Abhishek Joshi	Townsville Cancer Centre	A Phase 3 Randomized, Double-Blind, Controlled Study Evaluating FPA144 and Modified FOLFOX6 in Patients with Previously Untreated Advanced Gastric and Gastroesophageal Cancer: Phase 3 Preceded by Dose-Finding in Phase 1	ICON Clinical Research Pty Limited
Ms Bridee Neibling	Rehabilitation	Perseverance with home-based upper limb rehabilitation: The perspectives of stroke survivors in Queensland	THHS SERTA Funding

Principal Investigators	Department	Study Title	Funding Source
Prof Damon Eisen	Infectious Diseases	A Phase 3, randomized, doubleblind, active controlled study to compare the efficacy and safety of ridinilazole (200 mg, bid) for 10 days with vancomycin (125 mg, qid) for 10 days in the treatment of Clostridium difficile infection (CDI).	INC Research Australia Pty Ltd
Ms Amy Brown	Townsville Cancer Services / Allied Health	Linking research engagement with health system performance: an evaluation of research investment at the Townsville Hospital and Health Service	THHS SERTA Funding
Ms Vickie Archer	Transition Care Program / Professional Nursing & Midwifery Services	Are bathing wipes acceptable to older people in the community setting?	
Dr Vasant Shenoy	Endocrinology	Retrospective chart audit on the impact of fetal sex and the maternal risk of gestational diabetes mellitus.	
Dr Mark Wildman	Emergency	Nasal High Flow therapy for Children with Acute Hypoxemic Respiratory Failure – a Randomised Controlled Trial - PARIS II Trial. (PARIS: Paediatric Acute Respiratory Intervention Studies)	THHS SERTA Funding NHMRC Funding Fisher & Paykel
Dr Suresh Varma	Radiation Oncology	A Randomized, Open-Label Study of Combinations of Standard and High Dose REGN2810 (Cemiplimab; Anti-PD 1 Antibody) and Ipilimumab (Anti-CTLA-4 Antibody) in the Second-Line Treatment of Patients with Metastatic Non-Small Cell Lung Cancer with Tumors Expressing PD-L1 <50%	
Prof Damon Eisen	Infectious Diseases	A phase 3 Randomized, Double-blind, Placebo-controlled, Multicentre Study to Evaluate the Efficacy and Safety of JNJ-63623872 in Combination With Standard-of-care Treatment in Adolescent, Adult, and Elderly Hospitalized Patient with Influenza A Infection	
Dr Gerben Keijzers (CPI) Dr Jan Sadewasser (Site PI)	Emergency	ARISE FLUIDS Observational Study	
Ms Meghan Fitzpatrick	Pharmacy	Towards improving medicine safety: Development and validation of screening tools for patients at risk of medicine-related problems at presentation and after discharge from the emergency department.	



Surgical Service Group

Adrienne Belchamber, Service Group Director

The surgical service group had yet another great year in 2018 supporting staff to conduct research across a variety of specialities and areas.

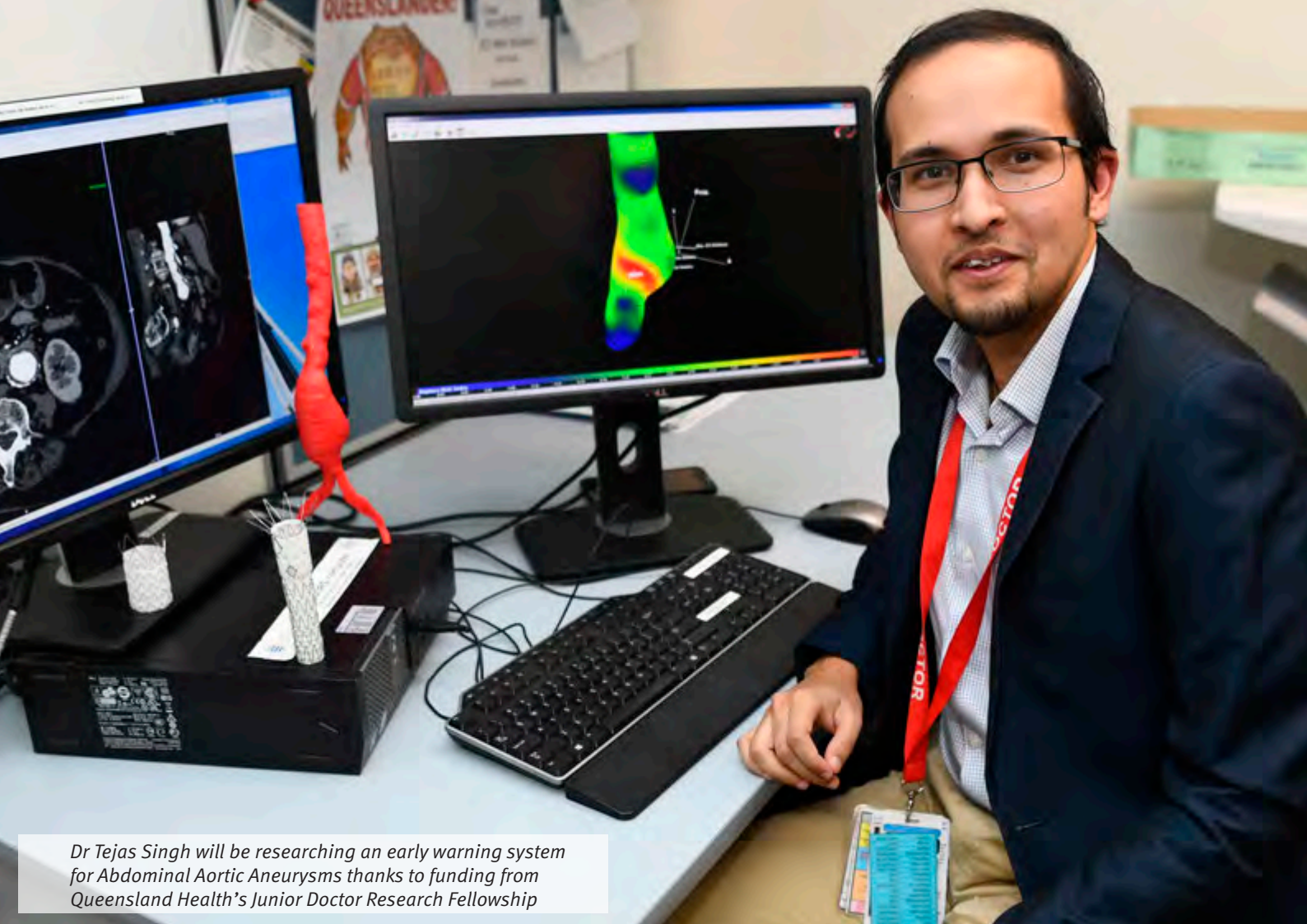
Some of the key researchers from the service group in 2018 were Professor Jonathan Golledge, vascular surgery; Associate Professor Laurence AG Marshman, neurosurgery; and Venkatesh Aithal, audiology. All of whom made significant and valuable contributions to the research community through a range of publications.

The 2018 year also saw the service group

complete a substantial number of Research Governance Authorised Research in areas including, vascular surgery, general surgery, intensive care, cardiothoracic surgery, and orthopaedics.

Everything in health care that is possible was impossible until it was done. We are proud of the hard work and dedication of our staff to continue to provide new knowledge across many specialty areas. Their research makes considerable contribution to both the national and international research communities and we continue to encourage our staff at the Townsville HHS to strive to achieve excellence.





Dr Tejas Singh will be researching an early warning system for Abdominal Aortic Aneurysms thanks to funding from Queensland Health's Junior Doctor Research Fellowship

JUNIOR DOCTOR RECEIVES GRANT FOR LIFE-SAVING RESEARCH

Dr Tejas Singh received \$250,000 in funding from Queensland Health's Junior Doctor Research Fellowship to investigate an early warning system for Abdominal Aortic Aneurysms (AAA). Dr Singh's research will investigate the possibility of using the mathematical technique of Finite Element Analysis (FEA) coupled with routinely conducted computed tomography (CT) scans to predict the progress of the disease in AAA patients.

In current clinical practice, the progression of the disease and assessment of the risk of rupture of AAA is guided by measuring the maximum diameter of the diseased artery and that measurement is used to help decide when to perform surgery. However, some AAAs will rupture before they reach the current

threshold for repair and some large AAAs remain stable without repair. This suggests that measuring diameter alone is an imperfect tool for deciding which AAAs require surgical intervention which is why Dr Singh chose to study this area.

This method of analysis was developed to help engineers find weak spots or areas of tension in their designs. When applied to patient's CT scans, it may help to identify which patients are most likely to rupture their AAA. The analysis method may therefore provide a more effective non-invasive means to determine which patients require surgery. Once fully developed this analysis method could be semi-automated for easy use by technicians.

SURGICAL SERVICE GROUP

KEY RESEARCHERS



Professor Jonathan Golledge

Vascular Surgery

Dr Golledge leads a team investigating problems related to the peripheral arteries particularly aortic aneurysm and lower limb peripheral artery disease. Active areas of research include a biobank and cohort study, a number of clinical trials to test novel therapies for artery disease and assessments of local burden of vascular diseases. One of these the FAME-2 trial completed and was published this year.

Research Collaborations:

Jenna Pinchbeck – Clinical Group Manager

Lisan Yip – Trial Coordination

Cindy Mathews – Ethics and Trial Coordinator

Glenys Standley – Data Assistant

Research Collaborations:

Multiple across Australia and internationally

Research Grants:

Grant Name: Royal Australasian College of Surgeons RACS - James Ramsay Project Grant

Grant Application Title: Metformin in the management of abdominal aortic aneurysm (MAGIC)

Grant Amount: \$78,000 over 2 years

Grant Summary: MAGIC will be the first trial to assess the value of metformin with significant preliminary data to suggest it can slow AAA growth. This trial offers the possibility of identifying a new treatment modality for an increasingly common condition, which would markedly change clinical practice.

Publications:

1. ALMEIDA, O. P., FORD, A. H., HANKEY, G. J., YEAP, B. B., GOLLEDGE, J. & FLICKER, L. 2018. Hearing loss and incident psychosis in later life: the Health In Men Study (HIMS). *International journal of geriatric psychiatry*.
2. ALMEIDA, O. P., HANKEY, G. J., YEAP, B. B., GOLLEDGE, J. & FLICKER, L. 2018. Substance use among older adults with bipolar disorder varies according to age at first treatment contact. *Journal of Affective Disorders*, 239, 269-273.
3. ALMEIDA, O. P., HANKEY, G. J., YEAP, B. B., PAUL CHUBB, S. A., GOLLEDGE, J. & FLICKER, L. 2018. Risk of prevalent and incident dementia associated with insulin-like growth factor and insulin-like growth factor-binding protein 3. *Molecular Psychiatry*, 23, 1825-1829.
4. BAILEY, T. G., PERISSIOU, M., WINDSOR, M. T., SCHULZE, K., NAM, M., MAGEE, R., LEICHT, A. S., GREEN, D. J., GREAVES, K., GOLLEDGE, J. & ASKEW, C. D. 2018. Effects of acute exercise on endothelial function in patients with abdominal aortic aneurysm. *American Journal of Physiology - Heart and Circulatory Physiology*, 314, H19-H30.

5. CHASLAND, L. C., KNUIMAN, M. W., DIVITINI, M. L., MURRAY, K., HANDELSMAN, D. J., FLICKER, L., HANKEY, G. J., ALMEIDA, O. P., GOLLEDGE, J., RIDGERS, N. D., NAYLOR, L. H., GREEN, D. J. & YEAP, B. B. 2018. Higher circulating androgens and higher physical activity levels are associated with less central adiposity and lower risk of cardiovascular death in older men. *Clinical Endocrinology*.
6. DUNSTER-JONES, M., STEICKE, M., MACKIE, J., GUTHRIE, R., DINH, T. N., AHMADY, F., GOLLEDGE, J. & WANG, Y. 2018. The concentration of ethanol affects its penetration rate in bovine cardiac and hepatic tissues. *Folia Histochemica et Cytobiologica*, 56, 92-97.
7. FORD, A. H., HANKEY, G. J., YEAP, B. B., GOLLEDGE, J., FLICKER, L. & ALMEIDA, O. P. 2018. Hearing loss and the risk of dementia in later life. *Maturitas*, 112, 1-11.
8. FORD, A. H., YADAV, R. & GOLLEDGE, J. 2018. Sex hormones and incident dementia in older men: The health in men study. *Psychoneuroendocrinology*, 98, 139-147.
9. GOLLEDGE, J. 2018. Abdominal aortic aneurysm: update on pathogenesis and medical treatments. *Nature Reviews Cardiology*.
10. GOLLEDGE, J., MAARIJ, K., MOXON, J. V., BEARD, J. D., GIROLD, S., WRANG, H. & MORRIS, D. R. 2018. Systematic Review and Meta-analysis of Clinical Trials Examining the Benefit of Exercise Programmes Using Nordic Walking in Patients With Peripheral Artery Disease. *European Journal of Vascular and Endovascular Surgery*.
11. GOLLEDGE, J., MORRIS, D. R., PINCHBECK, J., ROWBOTHAM, S., BOURKE, M., BOURKE, B., NORMAN, P. E., JONES, R. & MOXON, J. V. 2018. Metformin Prescription is Associated with a Reduction in the Combined Incidence of Surgical Repair and Rupture Related Mortality in Patients with Abdominal Aortic Aneurysm. *European Journal of Vascular and Endovascular Surgery*.
12. KRISHNA, S. M., MOXON, J. V., JOSE, R. J., LI, J., SAHEBKAR, A., JAAFARI, M. R., HATAMIPOUR, M., LIU, D. & GOLLEDGE, J. 2018. Anionic nanoliposomes reduced atherosclerosis progression in Low Density Lipoprotein Receptor (LDLR) deficient mice fed a high fat diet. *Journal of Cellular Physiology*, 233, 6951-6964.
13. LAMB, L. S., ALFONSO, H., NORMAN, P. E., DAVIS, T. M. E., FORBES, J., MÜENCH, G., IRRGANG, F., ALMEIDA, O. P., GOLLEDGE, J., HANKEY, G. J., FLICKER, L. & YEAP, B. B. 2018. Advanced Glycation End Products and esRAGE Are Associated With Bone Turnover and Incidence of Hip Fracture in Older Men. *The Journal of clinical endocrinology and metabolism*, 103, 4224-4231.
14. LI, J., HUYNH, P., DAI, A., WU, T., TU, Y., CHOW, B., KIRIAZIS, H., DU, X. J., BACH, L. A., WILKINSON-BERKA, J. L., BIROS, E., WALKER, P., NATAATMADJA, M., WEST, M., GOLLEDGE, J., ALLEN, T. J., COOPER, M. E. & CHAI, Z. 2018. Diabetes reduces severity of aortic aneurysms depending on the presence of cell division autoantigen 1 (CDA1). *Diabetes*, 67, 755-768.
15. MENESES, A. L., NAM, M. C. Y., BAILEY, T. G., MAGEE, R., GOLLEDGE, J., HELLSTEN, Y., KESKE, M. A., GREAVES, K. & ASKEW, C. D. 2018. Leg blood flow and skeletal muscle microvascular perfusion responses to submaximal exercise in peripheral arterial disease. *American Journal of Physiology - Heart and Circulatory Physiology*, 315, H1425-H1433.
16. MORRIS, D. R., SKALINA, T. A., SINGH, T. P., MOXON, J. V. & GOLLEDGE, J. 2018. Association of Computed Tomographic Leg Muscle Characteristics With Lower Limb and Cardiovascular Events in Patients With Peripheral Artery Disease. *Journal of the American Heart Association*, 7, e009943.
17. NASTASI, D. R., SMITH, J. R., MOXON, J. V., TROLLOPE, A. & GOLLEDGE, J. 2018. Prescription of Pharmacotherapy and the Incidence of Stroke in Patients With Symptoms of Peripheral Artery Disease. *Stroke*, 49, 2953-2960.
18. PERISSIOU, M., BAILEY, T. G., WINDSOR, M., NAM, M. C. Y., GREAVES, K., LEICHT, A. S., GOLLEDGE, J. & ASKEW, C. D. 2018. Effects of exercise intensity and cardiorespiratory fitness on the acute response of arterial stiffness to exercise in older adults. *European Journal of Applied Physiology*, 1-16.
19. PHIE, J., MOXON, J. V., KRISHNA, S. M., KINOBE, R., MORTON, S. K. & GOLLEDGE, J. 2018. A diet enriched with tree nuts reduces severity of atherosclerosis but not abdominal aneurysm in angiotensin II-infused apolipoprotein E deficient mice. *Atherosclerosis*, 277, 28-33.

20. PIERCE, D. R., DOMA, K., RAIFF, H., GOLLEDGE, J. & LEICHT, A. S. 2018. Influence of exercise mode on post-exercise arterial stiffness and pressure wave measures in healthy adult males. *Frontiers in Physiology*, 9.
21. PINCHBECK, J. L., MOXON, J. V., ROWBOTHAM, S. E., BOURKE, M., LAZZARONI, S., MORTON, S. K., MATTHEWS, E. O., HENDY, K., JONES, R. E., BOURKE, B., JAEGGI, R., FAVOT, D., QUIGLEY, F., JENKINS, J. S., REID, C. M., VELU, R. & GOLLEDGE, J. 2018. Randomized Placebo-Controlled Trial Assessing the Effect of 24-Week Fenofibrate Therapy on Circulating Markers of Abdominal Aortic Aneurysm: Outcomes From the FAME -2 Trial. *Journal of the American Heart Association*, 7, e009866
22. SINGH, T. P., MOXON, J. V., HEALY, G. N., CADET-JAMES, Y. & GOLLEDGE, J. 2018. Presentation and outcomes of indigenous Australians with peripheral artery disease. *BMC Cardiovascular Disorders*, 18.
23. SINGH, T. P., SKALINA, T., NOUR, D., MURALI, A., MORRISON, S., MOXON, J. V. & GOLLEDGE, J. 2018. A meta-analysis of the efficacy of allopurinol in reducing the incidence of myocardial infarction following coronary artery bypass grafting. *BMC Cardiovascular Disorders*, 18.
24. SIRU, R., ALFONSO, H., CHUBB, S. A. P., GOLLEDGE, J., FLICKER, L. & YEAP, B. B. 2018. Subclinical thyroid dysfunction and circulating thyroid hormones are not associated with bone turnover markers or incident hip fracture in older men. *Clinical Endocrinology*.
25. STEICKE, M., YANG, G., DINH, T. N., DUNSTER-JONES, M., SARGISSON, O., AHMADY, F., GOLLEDGE, J. & WANG, Y. 2018. The penetration of methanol into bovine cardiac and hepatic tissues is faster than ethanol and formalin. *European Journal of Histochemistry*, 62, 1-6.
26. WINDSOR, M. T., BAILEY, T. G., PERISSIOU, M., MEITAL, L., GOLLEDGE, J., RUSSELL, F. D. & ASKEW, C. D. 2018. Cytokine responses to acute exercise in healthy older adults: The effect of cardiorespiratory fitness. *Frontiers in Physiology*, 9.



Venkatesh Aithal

*Consultant Audiologist and Director Audiology
Honorary Senior Audiology Lecturer, SHRS. UQ*

Venkatesh Aithal is a consultant clinical audiologist and head of Audiology Department, Townsville Hospital and Health Service (THHS), Queensland. Venkatesh is an active researcher and has led the audiology service at The Townsville Hospital and Community Health, Kirwan for last 16 years. His team has successfully obtained various research grants from New Technology Funding and Evaluation Program (212K), National Health and Medical Research Council (424K), HP Research grant (150K), and Healthy Hearing Program (250K) on the assessment of middle ear function in infants and children using wideband tympanometry over the years.

He has actively collaborated with the Hearing Research Unit, School of Health and Rehabilitation Sciences, University of Queensland for the last 10 years. Venkatesh completed his PhD on identification of middle ear pathology in infants using an innovative technology called sweep frequency impedance (SFI) technique for the first time in Australia.

Venkatesh has published more than 20 papers in peer reviewed international journals and presented at more than 50 national and international conferences. Venkatesh is a member of the Audiological Society of Australia with clinical certificate and a member of the National Rural Health Alliance. He is also an International Affiliate of American Speech Language and Hearing Association and member of American Auditory Society.

Research Team:

Dr Sreedevi Aithal - Adjunct Senior Lecturer, UQ. Honorary Senior Lecturer UQ, Co-ordinator, Paediatric audiology and Cochlear Implant Clinic

A/Professor Joseph Kei, UQ - Director, Hearing research Unit for children, SHRS, UQ

Dr Shane Anderson - Director, ENT services. Townsville Hospital and Health Service.

Joshua Myers - Senior Audiologist, CHIC clinic, PhD student, UQ

Melissa Forrester - Audiologist

Research Collaborations:

Hearing Research Unit for Children, Audiology Department

School of Health and Rehabilitation Sciences. University of Queensland

Research Grants:

Grant Name: Tele-Audiology

Grant Application Title: Tele-Audiology pilot project-closing the gap

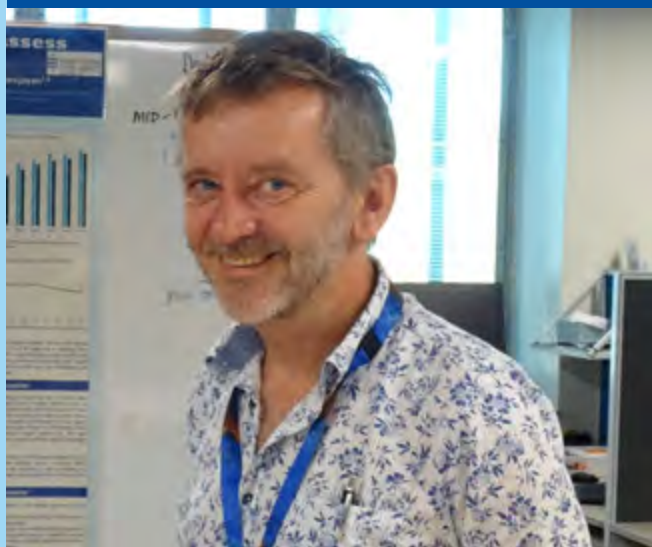
Grant Amount: \$19,986

Publications:

1. AITHAL V, AITHAL S, KEI J AND MANUEL A. 2018. Normative wideband acoustic immittance measurements in Caucasian and Aboriginal children. Manuscript accepted for publication American Journal of Audiology. https://doi.org/10.1044/218_AJA-18-0065
2. AITHAL S, AITHAL V, KEI J, ANDERSON S AND LIEBENBERG S. 2018. Eustachian tube dysfunction and wideband absorbance measurement at tympanometric peak pressure and 0 daPa. Journal of the American Academy of Audiology. Online
3. AITHAL, V., KEI, J., DRISCOLL, C., MURAKOSHI, M. & WADA, H. 2018. Predictive accuracy of sweep frequency impedance technology in identifying conductive conditions in newborns. Journal of the American Academy of Audiology, 29, 106-117.
4. MYERS, J., KEI, J., AITHAL, S., AITHAL, V., DRISCOLL, C., KHAN, A., MANUEL, A., JOSEPH, A. & MALICKA, A. N. 2018. Diagnosing middle ear pathology in 6-to 9-month-old infants using wideband absorbance: A risk prediction model. Journal of Speech, Language, and Hearing Research, 61, 2386-2404.
5. MYERS J, KEI J, AITHAL S, AITHAL V, DRISCOLL C, KHAN A, MANUEL A, JOSEPH A AND MALICKA A. 2018. Development of a diagnostic prediction model for conductive conditions in neonates using wideband acoustic immittance. Ear and Hearing,



RESEARCHER HIGHLIGHT



Dr Stephen Gilbert

*Senior Staff Specialist in Anaesthetics
and Pain Medicine*

Dr Stephen Gilbert is part of a team developing a group program to help patients with persistent pain to reduce their opioid medication.

A preliminary audit over 2018-2019 has shown the majority of patients are able to reduce their medication, without suffering more pain, and subjectively feel more-clear headed. The plan is to build a prospective research study of patients over 2019.

Research Team:

Lily Taylor – Senior Pharmacist

Shereen Gilmore – Senior Psychologist

Publications:

1. TORRANCE, N., MANSOOR, R., WANG, H., GILBERT, S., MACFARLANE, G. J., SERPELL, M., BALDACCHINO, A., HALES, T. G., DONNAN, P., WYPER, G., SMITH, B. H. & COLVIN, L. 2018. Association of opioid prescribing practices with chronic pain and benzodiazepine co-prescription: a primary care data linkage study. British Journal of Anaesthesia.

Dr Soon Yee Teoh

Staff Specialist Anaesthetist and Diving and Hyperbaric Physician

This year I published my first paper in diving and hyperbaric medicine. The project was based on improving clinical outcomes while reducing waste and challenging long held beliefs.

Many of the medications used inside a hyperbaric chamber are often contained in glass ampoules and traditionally they were opened and drawn up prior to being allowed inside the chamber. If unused these would need to be discarded.

This project demonstrated that glass medication ampoules are more robust than first thought

and could withstand rapid compression and decompression inside a hyperbaric chamber. Making it safe to have these medications inside the chamber and only open them if needed.

Research Team:

Dr Venkat Vangaveti – Co-author

Research Collaborations:

James Cook University

Publications:

1. TEOH, S. Y. & VANGAVETI, V. N. 2018. Repeated hyperbaric exposure and glass ampoule safety. Diving and Hyperbaric Medicine, 48, 107-109.



*Staff Specialist Endocrinology, Adjunct Professor
James Cook University Dr Usman Malabu*

SURGICAL SERVICE GROUP

RESEARCH PUBLICATIONS

1. CROESE, A., LAWSON, A., SINGH, T., BRIMSTONE, S. & BRUNOTT, N. 2018. An evaluation of nurse-led post-operative telephone follow-up in a regional centre. *ANZ Journal of Surgery*, 88, 397-398.
2. CROESE, A. D., LONIE, J. M., TROLLOPE, A. F., VANGAVETI, V. N. & HO, Y. H. 2018. A meta-analysis of the prevalence of Low Anterior Resection Syndrome and systematic review of risk factors. *International Journal of Surgery*, 56, 234-241.
3. CROESE, A. D., WHITING, S., VANGAVETI, V. N. & HO, Y. H. 2018. Using sacral nerve modulation to improve continence and quality of life in patients suffering from low anterior resection syndrome. *ANZ Journal of Surgery*, 88, E787-E791.
4. CROESE, A. D., ZUBAIR, O. N., LONIE, J., TROLLOPE, A. F., VANGAVETI, V. N., MUSHAYA, C. & HO, Y. H. 2018. Prevalence of low anterior resection syndrome at a regional Australian centre. *ANZ Journal of Surgery*.
5. DE JAGER, E., GUNNARSSON, R. & HO, Y. H. 2018. Implementation of the World Health Organization Surgical Safety Checklist Correlates with Reduced Surgical Mortality and Length of Hospital Admission in a High-Income Country. *World Journal of Surgery*, 1-8.
6. FLAVELL, C. A., MARSHMAN, L. G. & GORDON, S. J. 2018. Measurement of transversus abdominis activation in chronic low back pain patients using a novel standardized real-time ultrasound imaging method. *Ultrasound*.
7. GAMBLE, E. L., KARUNARATHNE, S. M. T. L. & KRISHNAN, R. 2018. Spontaneous middle lobe torsion in a patient with multicentric Castleman disease: A case report. *Journal of Medical Imaging and Radiation Oncology*.
8. GAUTAM, A., WISEMAN, G. G., GOODMAN, M. L., AHMEDPOUR, S., LINDSAY, D., HEYER, A., STALEWSKI, H., NORTON, R. E. & WHITE, A. V. 2018. Paediatric thoracic empyema in the tropical North Queensland region of Australia: Epidemiological trends over a decade. *Journal of Paediatrics and Child Health*.
9. GRANT, R. & DRAPER, N. 2018. The importance of Indigenous Health Liaison Officers and family meetings to improve cardiovascular outcomes in Indigenous Australians. *Australian and New Zealand Journal of Public Health*.
10. GRANT, R., PAGE, S. & IYER, A. 2018. Contained myocardial abscess following a myocardial infarction. *Journal of Cardiac Surgery*, 33, 144-145.
11. HU, A. S. Y., DONOHUE, P. O., GUNNARSSON, R. K. & DE COSTA, A. 2018. External validation of the Cairns Prediction Model (CPM) to predict conversion from laparoscopic to open cholecystectomy. *American Journal of Surgery*.
12. JOHNSON, N. R., SINGH, N. R., OZTEL, M., VANGAVETI, V. N., RAHMEL, B. B. & RAMALINGAM, L. 2018. Ophthalmological injuries associated with fractures of the orbitozygomaticomaxillary complex. *British Journal of Oral and Maxillofacial Surgery*.
13. LEONG, S. M., TIWARI, A., CHUNG, F. & WONG, D. T. 2018. Obstructive sleep apnea as a risk factor associated with difficult airway management - A narrative review. *Journal of Clinical Anesthesia*, 45, 63-68.
14. LOCKHART, K. 2018. Mesh versus non-mesh for inguinal and femoral hernia repair. *Cochrane Database of Systematic Reviews*, 2018.
15. MA, W. S., MOATTAR, H. & MUSUMBA, C. 2018. Multicystic Pancreas on Endoscopic Ultrasound Imaging: Worth Thinking Outside the 'Box' (Pancreas). *Gastroenterology*, 154, 814-815.

16. MCMANUS, S., JONES, L. & SENTHURAN, S. 2018. Tolerability of the Cook staged extubation wire. A reply. *Anaesthesia*, 73, 1170.
17. MITCHELL, P., THOMAS, P. & ANDERSON, D. 2018. Spontaneous resolution of a non-traumatic vertebro-vertebral arteriovenous fistula in a paediatric patient. *Journal of Clinical Neuroscience*.
18. OATES, M., IYER, A., FITZGERALD, M., YADAV, S. & SAXENA, P. 2018. Delayed presentation with cardiac tamponade due to blunt thoracic trauma and ruptured left atrial appendage. *Indian Journal of Thoracic and Cardiovascular Surgery*, 34, 73-74.
19. O'DONOHUE, T. J., SCHRALE, R. G., SIKDER, S., SURVE, N., RUDD, D. & KETHEESAN, N. 2018. Significance of Anti-Myosin Antibody Formation in Patients With Myocardial Infarction: A Prospective Observational Study. *Heart Lung and Circulation*.
20. POPOVIC, C. & SAXENA, P. 2018. Wrong way go back: lessons learned from a misguided chest drain. *ANZ Journal of Surgery*.
21. POPOVIC, C., YONG, M. S., SAXENA, P. & YADAV, S. 2018. Papillary fibroelastoma: A unique case of distant recurrence. *Journal of Thoracic and Cardiovascular Surgery*.
22. REZA, A. S., ANAND, D., CHENG, S. H. & ANAND, D. 2018. Rare cause for a common presentation: Isolated pulmonary valve endocarditis yet another mimicker. *BMJ Case Reports*, 2018.
23. SINGH, T. P., RIZVI, S. A. A. & PRETORIUS, C. F. 2018. Post-menopausal acquired diaphragmatic herniation in the context of endometriosis. *International Journal of Surgery Case Reports*, 53, 154-156.
24. SMAIL, H., SAXENA, P., WALLINDER, A., LIN, E., SNELL, G. I., HOBSON, J., ZIMMET, A. D., MARASCO, S. F. & MCGIFFIN, D. C. 2018. Donor Lung Procurement by Surgical Fellow with an Expectation of High Rate of Lung Utilisation. *Heart Lung and Circulation*.
25. SO, H. F., CROSS, T. J. & ZONTA, M. 2018. A case report of incidental ectopic pancreatic tissue during laparoscopic appendectomy. *International Journal of Surgery Case Reports*, 45, 77-78.
26. TORRANCE, N., MANSOOR, R., WANG, H., GILBERT, S., MACFARLANE, G. J., SERPELL, M., BALDACCHINO, A., HALES, T. G., DONNAN, P., WYPER, G., SMITH, B. H. & COLVIN, L. 2018. Association of opioid prescribing practices with chronic pain and benzodiazepine co-prescription: a primary care data linkage study. *British Journal of Anaesthesia*.
27. WIEMERS, P. D., FRASER, J. F., MARNEY, L., YADAV, S. & TAM, R. 2018. A Review of Coronary Artery Bypass Grafting in the Indigenous Australian Population. *Heart Lung and Circulation*.
28. WIEMERS, P. D., MARNEY, L., WHITE, N., BOUGH, G., HUSTIG, A., TAN, W., CHENG, C. S., KANG, D., YADAV, S., TAM, R. & FRASER, J. F. 2018. Comorbidities and Ventricular Dysfunction Drive Excess Mid-Term Morbidity in an Indigenous Australian Coronary Revascularisation Cohort. *Heart Lung and Circulation*.
29. WIEMERS, P. D., MARNEY, L., YADAV, S., TAM, R. & FRASER, J. F. 2018. An Overview of Indigenous Australian Disadvantage in Terms of Ischaemic Heart Disease. *Heart Lung and Circulation*.
30. ROBERTSON, K., MARSHMAN, L. A. G., PLUMMER, D. & DOWNS, E. 2018. Effect of Gabapentin vs Pregabalin on Pain Intensity in Adults with Chronic Sciatica: A Randomized Clinical Trial. *JAMA Neurology*.
31. ROBERTSON, K., MARSHMAN, L. A. G., HENNESSY, M., HARRISS, L. & PLUMMER, D. 2018. Pregabalin versus gabapentin in the treatment of sciatica: Study protocol for a randomised, double-blind, cross-over trial (PAGPROS). *Trials*, 19.
32. DOWNS, E. & MARSHMAN, L. A. G. 2018. Spontaneous Resolution of Lumbar Facet Joint Cyst. *World Neurosurgery*, 115, 414-416.
33. FLAVELL, C. A., MARSHMAN, L. G. & GORDON, S. J. 2018. Measurement of transversus abdominis activation in chronic low back pain patients using a novel standardized real-time ultrasound imaging method. *Ultrasound*.

SURGICAL SERVICE GROUP

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Dr Ramesh Velu	Vascular Surgery	Paclitaxel-eluting balloon angioplasty in the treatment of juxta-anastomotic stenosis of arteriovenous fistulas	
Dr Etka Paw	General Surgery	Fibrin glue in skin grafts for skin cancer	THHS SERTA Funding
Dr Adam Holyoak	Emergency Intensive Care Unit Pathology Queensland	Validation of rotational thromboelastometry (ROTEM) results for standard human plasma	EMF
Dr Ben Parkinson	Clinical Information Services	Are seasonal variations in Staphylococcal skin carriage rates identifiable from the preoperative surveillance swabs of patients about to undergo lower limb joint replacement in Australian tropical or non-tropical hospitals?	
Dr Siva Senthuran	Intensive Care	Can datalinkage help identify standards of care and outcomes of Emergency Laparotomy at The Townsville Hospital? – A pilot study.	
Dr Siva Senthuran	Gastroenterology Cardiothoracic Surgery	Liver compliance by fibroscan and cardiac surgery outcomes	THHS SERTA Funding
Dr Kaushik Hazratwala	Orthopaedic	ORIQI Databank/FORCE Therapeutics	
Dr Sutrisno Gunawan	Intensive Care Unit	Learning Ultrasound in Critical Care (LUCC): Evaluating the Feasibility and Efficacy of a Structured Program on Clinician Performed Ultrasound Training for Critical Care Residents	
Nathan Engstrom	Cardiac Investigations	Cardiac Investigations	
Dr Stephen Gilbert	NQ Persistent Pain Management Service	Examining the effectiveness and feasibility of RADAR (Reducing Analgesic Drugs and Re-engaging) opioid tapering group program – Pilot Study	

Principal Investigators	Department	Study Title	Funding Source
Dr Ilamurugu Kaliaperumal	Anaesthetics	Exploration of the factors influencing the use of slow release opioids for managing Post Caesarean pain	
Dr Thomas Placanica	Ear Nose Throat (ENT)	Incidence of Computed Tomography Diagnosed Mastoiditis in the Asymptomatic Paediatric Population	
Prof Jonathan Golledge	Vascular Surgery	A Peripheral Vascular Cohort Study (PECS)	
Dr Bobby John	Cardiology	Incidence and Predictive Markers of Postoperative Atrial Fibrillation Following Coronary Artery Bypass Grafts	
Pankaj Saxena	Cardiology/ Cardiothoracic Surgery	A retrospective analysis investigating the prognosis and incidence of major cardiac adverse events in Indigenous patients who received percutaneous coronary intervention (PCI) versus coronary artery bypass graft (CABG) surgery.	
Dr Siva Senthuran	Intensive Care Unit	A Phase III, Randomized, Double-Blind, Active Comparator-Controlled Clinical Trial to Study the Safety, Tolerability, and Efficacy of Imipenem/Cilastatin/Relebactam (MK-7655A) Versus Piperacillin/Tazobactam in Subjects with Hospital-Acquired Bacterial Pneumonia or Ventilator-Associated Bacterial Pneumonia	Merck Sharp & Dohme Corp
Dr Harshithaa Thavarajah	Cardiology	A Retrospective Analysis of Takotsubo Cardiomyopathy - A Single Center Study	
Dr Thomas Placanica	Ear Nose Throat (ENT)	Computed Tomography Diagnosed Sinusitis in the Paediatric Population	
Dr Ryan Schrale	Cardiac Services	A Phase 3, Multicenter, Double-blind, Randomized, Placebo-controlled, Parallel-group Study to Investigate the Efficacy and Safety of CSL112 in Subjects with Acute Coronary Syndrome	
Dr Sally Meade	General Surgery	Australian & New Zealand Thyroid Cancer Registry	
Dr Benjamin Parkinson	Orthopaedics	Intraosseous (IV) vs Intravenous (IO) antibiotic prophylaxis in Total Knee Replacement - A Comparative Study	

Principal Investigators	Department	Study Title	Funding Source
Dr Harmanjit Dev	Cardiology	Prevalence and Incidence of New Onset Atrial Fibrillation in Hospitalized Patients: A retrospective observational study based at Townsville Hospital	
Dr Bobby John	Cardiac Investigations	Ventricular ectopic burden as predictor for survival in subjects less than 65yrs	
Mr Andrew Maurice	General Surgery	Laparoscopic appendicectomy versus antibiotics for radiologically confirmed acute uncomplicated appendicitis: a two-centre pilot trial	THHS SERTA Funding
Dr Kaushik Hazratwala	Orthopaedics	The effect of a novel front-line drug therapy (ALM) on reducing adhesions following joint arthroplasty in a rat model.	THHS SERTA Funding
Dr Patricia Field	Cardiac Ward Surgical Clinical Decisions Unit Coronary Care Unit	Hospital's in-patient cardiac rehabilitation and referral systems of northern Queensland	
Dr Antony Rapisarda	Orthopaedics	Evaluation of Prosthetic and Native Joint Infection Rates Using Genomic Biomarkers	OrthoDX Pty Ltd
Dr Pieter Weemaes	Intensive Care	End of Life Conversations Workshop Study	
Dr Bobby John	Cardiology	Ischaemic cardiomyopathy and 1-year ejection fraction outcomes	
Dr Benjamin Parkinson	Orthopaedics	Intraosseous (IV) vs Intravenous (IO) antibiotic prophylaxis in Total Knee Replacement - A Comparative Study	
Dr Jeffrey Smith	Paediatric Intensive Care Unit (PICU) Emergency Department	Fibrinogen Concentrate vs Cryoprecipitate in Traumatic Haemorrhage In Children: A pilot Randomised Controlled Trial	
Dr Siva Senthuran	Intensive Care	Long term outcome in the EPO TBI Trial	

Other Townsville Hospital and Health Service Research





“Pepper” (from SoftBank Robotics and ST Solutions Australia) with enrolled nurse Anne Elvin and patient Rodney Whiting

ROBOT CONCIERGE ‘PEPPER’ TRIALLED AT THE TOWNSVILLE HOSPITAL

The Townsville Hospital is the first hospital in Australia to trial a social humanoid robot in an acute adult health setting. ‘Pepper’ the robot was based at the Townsville Hospital for five months as part of an innovative program of research conducted by a team of THHS and JCU nurses.

Ms Anne Elvin, Ms Chris McIntosh, Dr Wendy Smyth and Profs Cate Nagle and Melanie Birks undertook two research studies involving Pepper. The studies looked at the acceptability and usability of a robot in the healthcare setting and the effect of Pepper in educating patients, visitors and staff on the prevention of influenza.

The ARC Centre of Excellence in Robotic Vision at the Queensland University of Technology provided valuable technical assistance.

In the first study, Pepper spent time in the Emergency Short Stay Unit and in various high traffic public spaces within the hospital. The robot was programmed to recognise verbal prompts and provide information on a range of topics

including smoking, handwashing, and directions to different locations. Interactions were observed and participants completed a survey about their attitudes to a robot in a healthcare setting. There was an overwhelmingly positive responses from over 500 participants.

In the second study Pepper provided information and posed questions on preventing influenza using a pre/post-test approach with 995 participants. There was a significant increase in participants’ knowledge following the interaction with Pepper.

There was considerable media interest in Pepper. The results of both studies are being presented at a National Nursing Forum in August and will be published in peer reviewed journals.

The use of robots in health care is a rapidly emerging and innovative field that holds many opportunities and challenges. Studies like these provide valuable information to inform the direction ahead.

CORPORATE SERVICES

PROFESSIONAL NURSING & MIDWIFERY SERVICE



Professor Cate Nagle

Professor of Nursing



Wendy Smythe

Nurse Researcher

The Nursing and Midwifery Research program aligns with the strategic intent of the THHS, JCU's Centre for Nursing and Midwifery and the Tropical Australian Academic Health Centre. Our research projects are translational in nature and inform nursing and midwifery practice, education and policy.

Most projects are focussed on improving clinical outcomes and are clinician led. Our program is strongly committed to developing research capabilities within the nursing and midwifery workforce. We are contributing to developing the research reputation and reputation of THHS for quality innovative health research, for example two studies that attracted significant interest were: a paper on the Clinical Partnership program that was presented at the National Nurses Forum and two studies involving a social humanoid robot that attracted national and international media.

Research Collaborations:

Nursing and Midwifery, James Cook University, Townsville
College of Medicine and Dentistry, James Cook University, Atherton
College of Public Health, Medicine and Veterinary Sciences, James Cook University, Townsville
World Health Organisation Collaborating Centre for Nursing and Midwifery Education and Research Capacity Building, College of Health Care Sciences, James Cook University, Cairns
Deakin University, Geelong, Victoria
Ballarat Health Service, Ballarat, Victoria
Federation University Ballarat, Victoria
Plymouth University, UK
King's College, UK
Murdoch Children's Research Institute, Parkville, Victoria
Western Health Service, St Albans, Victoria

Research Grants:

Grant Name: THHS SERTA Research Grant

Grant Application Title: Preferences and practices of haemodialysis patients with a central venous catheter for maintaining hygiene: an exploratory study

Grant Amount: \$29,502

Grant Name: THHS SERTA Research Grant

Grant Application Title: Improving mental health in northern Australia: Upskilling clinicians

Grant Amount: \$40,000

Grant Name: World Health Organisation

Grant Application Title: Revision of Standards of Practice for Nursing in the Federated States of Micronesia

Grant Amount: RTT Commercial in Confidence

Publications:

Peer Reviewed Publications:

1. EDWARDS, D. J., WICKING, K., SMYTH, W., SHIELDS, L. & DOUGLAS, T. 2018. Information needs of parents of infants diagnosed with cystic fibrosis: Results of a pilot study. *Journal of Child Health Care*, 22, 382-392
2. JESSUP, M., SMYTH, W., ABERNETHY, G., SHIELDS, L. & DOUGLAS, T. 2018. Family-centred care for families living with cystic fibrosis in a rural setting: A qualitative study. *Journal of Clinical Nursing*, 27, e590-e599.
3. SMYTH, W., PIANA, P. & PERKINS, R. 2018. New nurses' positive evaluation of transition-to-practice programs. *Journal of Continuing Education in Nursing*, 49(11), 500-506.
4. SMYTH, W., AL MAMUN, A., LUCAS, L., & SHIELDS, L. 2018. Working with families in the emergency department: Perceptions of working with children and their parents. *European Journal for Person Centered Healthcare*, 6(2), 189-195.
5. ABERNETHY, G., SMYTH, W., ARNOLD-NOTT, C., & STEWART, R. 2018. An investigation of the use, and acceptability, of the Edmonton Frail Scale in a rural primary care setting. *Australian Journal of Rural Health*, 26(6), 379-454. doi:10.1111/ajr.12434
6. Hutchison, A., Nagle, C., Kent, B., and Bick, D. (2018) Organisational interventions designed to reduce caesarean section rates: A systematic review protocol *BMJ Online* 8:e021120.doi:10.1136/bmjopen-2017-021120
7. Muggli, E., Curd, H., Nagle, C., Forster, D. and Halliday, J. (2018). Engaging pregnant women in observational research: A Qualitative Exploratory Study. *BMC Pregnancy and Childbirth* 18:33 doi.org/10.1186/s12884-018-1966-z
8. Cheng, S.-W., Bucknall, T., Nagle, C., & Hutchison, A. (2018). Women's decision-making processes and influences on their mode of birth following a caesarean delivery in Taiwan: A qualitative study. *BMC Pregnancy and Childbirth*, 18:31 doi.org/10.1186/s12884-018-1661-0.
9. Frawley, N., Wong Shee, A., Robertson, C., MacKenzie, A., Lodge, J., Versace, V., Shotten, A., Sturmels, K., and Nagle, C. (2018) Engaging with pregnancy care providers: an interview study of teenage women. *Journal of Paediatrics and Child Health*, 54 (S1). p. 20.
10. Wong Shee, A., Robertson, C., McKenzie, A., Frawley, N., Lodge, J., Versace, V., Corboy, D., and Nagle, C. (2018) Implementing an intervention to promote normal labour and birth: a study of clinicians' perceptions. *Journal of Paediatrics and Child Health*, 54 (S1). p. 126.
11. Nagle, C., and Vogt, T. (2018) Midwife standards for practice: one size does fit all. *Women and Birth*, 31 (S1). S51-S51.
12. Dooley, D., East, L., and Nagle, C. (2018) Nurturing yourself and each other: the value of emotional intelligence. *Women and Birth*, 31 (S1). S13-S13.
13. Hartney, N., Nagle, C., and Dooley, D. (2018) Evaluation of an innovative approach to enhancing midwives' understanding of breastfeeding physiology through the use of animation. *Women and Birth*, 31 (S1). S5-S5.
14. Crowe, G., Miles, M., Nagle, C. (2018) Exploring midwives' practice and experience of episiotomy. *Women and Birth*, 31(S1). S49-S49.

Commissioned Reports

1. Nagle, C., & Heartfield, M. McDonald S, Morrow J, Kruger G, Cramer, R., Stelfox S, Birks M, Bryce J, Hartney N. (2018). *NMBA Development of Midwife standards for practice Final Report*. Melbourne: Deakin University
2. West, C., Birks, M., Nagle, C., Lindsay, D., Grimes, A., and Roen, C. (2018) *Revision of Standards of Practice for Nursing in the Federated States of Micronesia: Report to the Pacific Health Systems and Policy Unit, World Health Organization*

Non-peer reviewed publications

1. Nagle, C. (2018). Person first and business second: towards cultural competence in nursing and midwifery, *Australian Nursing and Midwifery Journal*, 26(4):44
2. Maclean, D., Morton, J, Birks, M, Smithson, J., Smyth, W. & Nagle, C. (2018.) *Clinical placement in Nursing and Midwifery: Challenging the Status Quo*, *Australian Nursing and Midwifery Journal*, 25 (11):40-41

CORPORATE SERVICES

OFFICE OF EXECUTIVE DIRECTOR MEDICAL SERVICES



Adjunct Professor Andrew Johnson

Executive Director Medical Services



Dr Paul Lane

Director of Medical Services

Professor Andrew Johnson and Dr Paul Lane team have been working together since 2014 seeking to deepen the understanding of healthcare as a complex adaptive system and to develop strategies for improvement in safety and quality within that paradigm. They have been active within the International Resilient Healthcare Network as both contributing to the research and in development of models and frameworks. The combined insights into leadership and management, clinical care and systems science make for a powerful collaboration. To date, the partnership has resulted directly in 6 research grants, 23 peer reviewed outputs and two international awards.

Andrew Johnson has been a health service executive for over twenty years, most of that time in the role of EDMS Townsville. Paul Lane is an intensivist who has moved into medical leadership and management with a strong interest in safety and quality.

Research Team:

Dr Robyn Clay-Williams, Macquarie University – Researcher

Research Collaborations:

Macquarie University

Publications:

1. CLAY-WILLIAMS, R., JOHNSON, A., LANE, P., LI, Z., CAMILLERI, L., WINATA, T. & KLUG, M. 2018. Collaboration in a competitive healthcare system: negotiation 101 for clinicians. *Journal of Health Organization and Management*.
2. JOHNSON, A. & LANE, P. 2018. Framework for better care: Reconciling approaches to patient safety and quality. *Australian Health Review*.
3. JOHNSON A, LANE P, KLUG M, CLAY-WILLIAMS R. Removing Boundaries, Creating Value and Producing Safety in Health Care Using Empathic Negotiation Skills. In: Braithwaite J, Wears R, Hollnagel E, editors. *Resilient Health Care, Volume 5: Working across boundaries*. UK: CRC Press (accepted 22 March, 2018).
4. CLAY-WILLIAMS R, LANE P, BLAKELY B, JOHNSON A. Resilience in acute healthcare: implementation of an intervention across care boundaries. In: Braithwaite J, Wears R, Hollnagel E, editors. *Resilient Health Care, Volume 5: Working across boundaries*. UK: CRC Press (accepted 22 March, 2018).
5. JOHNSON A., AITKEN M. AND LEGGAT P. Healthcare in Disaster Chapter 11 in *Disaster Health Management: Principles and Practice*, Fitzgerald and Aitken ed.

CORPORATE SERVICES

RESEARCH PUBLICATIONS

1. CHEN, S. W., HUTCHINSON, A. M., NAGLE, C. & BUCKNALL, T. K. 2018. Women's decision-making processes and the influences on their mode of birth following a previous caesarean section in Taiwan: A qualitative study. BMC Pregnancy and Childbirth, 18.
2. MUDD, J., HOLLINS, A. & DONOHUE, S. 2018. Zika prevention: lessons from the Australian front line. Australian and New Zealand Journal of Public Health.
3. SYRMIS, W., RICHARD, R., JENKINS-MARSH, S., CHIA, S. C. & GOOD, P. 2018. Oral water soluble contrast for malignant bowel obstruction. Cochrane Database of Systematic Reviews, 2018.



Manager, Townsville Research Education, Support & Administration and Research Governance Officer Sue Jenkins-Marsh and Principal Health Practitioner Research Fellow Dr Tilley Pain

CORPORATE SERVICES

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Dr Wendy Smyth	Nursing & Midwifery Research Unit	The acceptability and usability of a robot in the healthcare setting	
Dr Wendy Smyth	Nursing & Midwifery Research Unit	Long-term condition self-management practices of Townsville Hospital and Health Service's administration workforce: a comparison study	Inkind - Professional Nursing and Midwifery Services, Allied Health Management Unit, Safety and Wellness
Dr Paul Lane	Governance, Informatics & Professional Standards Medical Workforce	Trialling the revised Macquarie Surgical Innovation Identification Tool (MSIIT) in Five Australian Hospitals: Phase One	
A/Prof Clare Harvey	Nursing Services	The Evaluation of the Nurse Navigator/Health Navigator Model: A Trans-Tasman Study	
Ms Kirsty Smith	Townsville Public Health Unit	Implementation and Evaluation of the Uptake, Sustainability and Impact of Point-of-Care Testing for chlamydia and gonorrhoea infections in remote Aboriginal communities	Dept of Health Funding
Dr Wendy Smyth	Nursing & Midwifery Research Renal Services	Enabling haemodialysis patients with a central venous catheter (CVC) to manage their hygiene needs	SERTA
Ms Amanda Kivic	Hospital in the Home Service	A case for the use of governance and "SAFEST" strategies to improve healthcare service efficiency	
Stephen Harbort	Finance	Use of the public health system by private patients: motivations and implications	
Dr Danielle Ferndale	FISS	Auslan/English Interpreting in Queensland Health	
Jenny Luke	Emergency Preparedness and Continuity Management - FISS	Safer Hospitals in North Queensland - Assessment of Resilience	
Debbie Maclean	Nursing & Midwifery Workforce	Clinical supervision of nursing students: are clinical supervisors ready?	
Stephanie Bushell	Organisation Wide	Decision making styles in an Australian healthcare workforce	
Dr Wendy Smyth	Nursing & Midwifery Research	Participant experience of a patient and population education robot (PEPPER)	James Cook University

MENTAL HEALTH SERVICE GROUP

RESEARCH PUBLICATIONS

1. KHANNA, R., MATTA, G., VISA, B. & RYAN, A. 2018.
Demographics and study practices of psychiatry trainees sitting the RANZCP written examinations.
Australasian Psychiatry, 26, 551-555.

MENTAL HEALTH SERVICE GROUP

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Ms Lisa Phelan	Child and Youth Mental Health Service	Health of the Nation Outcome Scales for Infants (HoNOSI) Field Trial - Qld	NQPHN
Prof Alan Clough	Northern Queensland Primary Health Network	Research Support for Suicide Prevention Planning and Implementation in the Northern Queensland Primary Health Network	
Mr Brent Fergusson	Alcohol Tobacco and Other Drugs Program	Australian Needle and Syringe Program Survey	

RURAL HOSPITALS SERVICE GROUP

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Mrs Tracy Flenady	Charters Towers Hospital	Validation of the Queensland Adult Deterioration Detection System and the socio-cultural factors that influence compliance with existing hospital care escalation systems	
A/Prof Caryn West	Allied Health - Ingham Hospital	Allied Health Rural Generalist Education Program (AHRGEP) Evaluation	



Front left to right: Anne Elvin, "Pepper" (from SoftBank Robotics and ST Solutions Australia), Chris McIntosh.

Back left to right: Professor Cate Nagle, Dr Wendy Smyth. Research team member absent from photo, Professor Melanie Birks.

PATHOLOGY QUEENSLAND

KEY RESEARCHERS



Dr Robert Norton

Microbiology

In his current capacity as Director of Microbiology and Infection Control at Townsville Hospital Dr Robert Norton has collaborated with researchers locally and internationally on projects relating to Melioidosis rheumatic fever, invasive group A streptococcal disease and Q-fever. He has been a co-author in the CDC sponsored guideline (2013) on Diagnostics for melioidosis and the CDC sponsored guidelines for treatment and post-exposure prophylaxis of this condition (2010). He is also part of a joint research group on Q fever with both Queensland Health and the NSW Department of Health.

Research Collaborations:

James Cook University
University of New England

Publications:

1. GASSIEP, I., AYE, C., ARMSTRONG, M., EMETO, T. I., HEATHER, C. S. & NORTON, R. E. 2018. Correlation between serum cryptococcal antigen titre and meningitis in immunocompetent patients. *Journal of Medical Microbiology*, 67, 1515-1518
2. SIKDER, S., WILLIAMS, N. L., SORENSON, A. E., ALIM, M. A., VIDGEN, M. E., MORELAND, N. J., RUSH, C. M., SIMPSON, R. S., GOVAN, B. L., NORTON, R. E., CUNNINGHAM, M. W., MCMILLAN, D. J., SRIPRAKASH, K. S. & KETHEESAN, N. 2018. Group G streptococcus induces an autoimmune carditis mediated by interleukin 17A and Interferon γ in the lewis rat model of rheumatic heart disease. *Journal of Infectious Diseases*, 218, 324-335.
3. GAUTAM, A., WISEMAN, G. G., GOODMAN, M. L., AHMEDPOUR, S., LINDSAY, D., HEYER, A., STALEWSKI, H., NORTON, R. E. & WHITE, A. V. 2018. Paediatric thoracic empyema in the tropical North Queensland region of Australia: Epidemiological trends over a decade. *Journal of Paediatrics and Child Health*.
4. CLEMENCE, M. C. S., HENDERSON, A., GREENBURY, C. B., NORTON, R. E. L. & FURYK, J. 2018. A survey of the antibiotic prescribing practices of doctors in an Australian Emergency Department. *Infection, Disease and Health*.
5. SLACK, A., PARSONSON, F., CRONIN, K., ENGLER, C. & NORTON, R. 2018. Activity of ceftolozane-tazobactam against burkholderia pseudomallei. *American Journal of Tropical Medicine and Hygiene*, 99, 281-282.
6. BRISCHETTO, A., GASSIEP, I., WHILEY, D., NORTON, R., 2018 Retrospective review of *Treponema pallidum* PCR and serology results: Are both tests necessary? *Journal of Clinical Microbiology*. Feb 14. Pii JCM.01782-17.

PATHOLOGY QUEENSLAND

RGO AUTHORISED RESEARCH

Principal Investigators	Department	Study Title	Funding Source
Dr Ian Gassiep	Microbiology	MALDI-TOF detection of Burkholderia pseudomallei using Vitek MS	
Dr Ian Gassiep	Microbiology	Correlation between serum cryptococcal antigen titre and meningitis risk in immunocompetent patients	
Dr Ian Gassiep	Microbiology	Molecular detection of Burkholderia pseudomallei using Panther Fusion®	
Dr Kayla Ward	Microbiology	Correlation between time to blood culture positivity and mortality in patients with staphylococcus aureus bacteraemia	
Dr Ian Gassiep	Microbiology	Antimicrobial stewardship in diabetic ketoacidosis	
Dr Ian Gassiep	Microbiology	Pathology stewardship: should we still perform urinary Legionella antigen testing?	

