

**Caboolture and Kilcoy Hospitals and
Woodford Corrections Health Service**

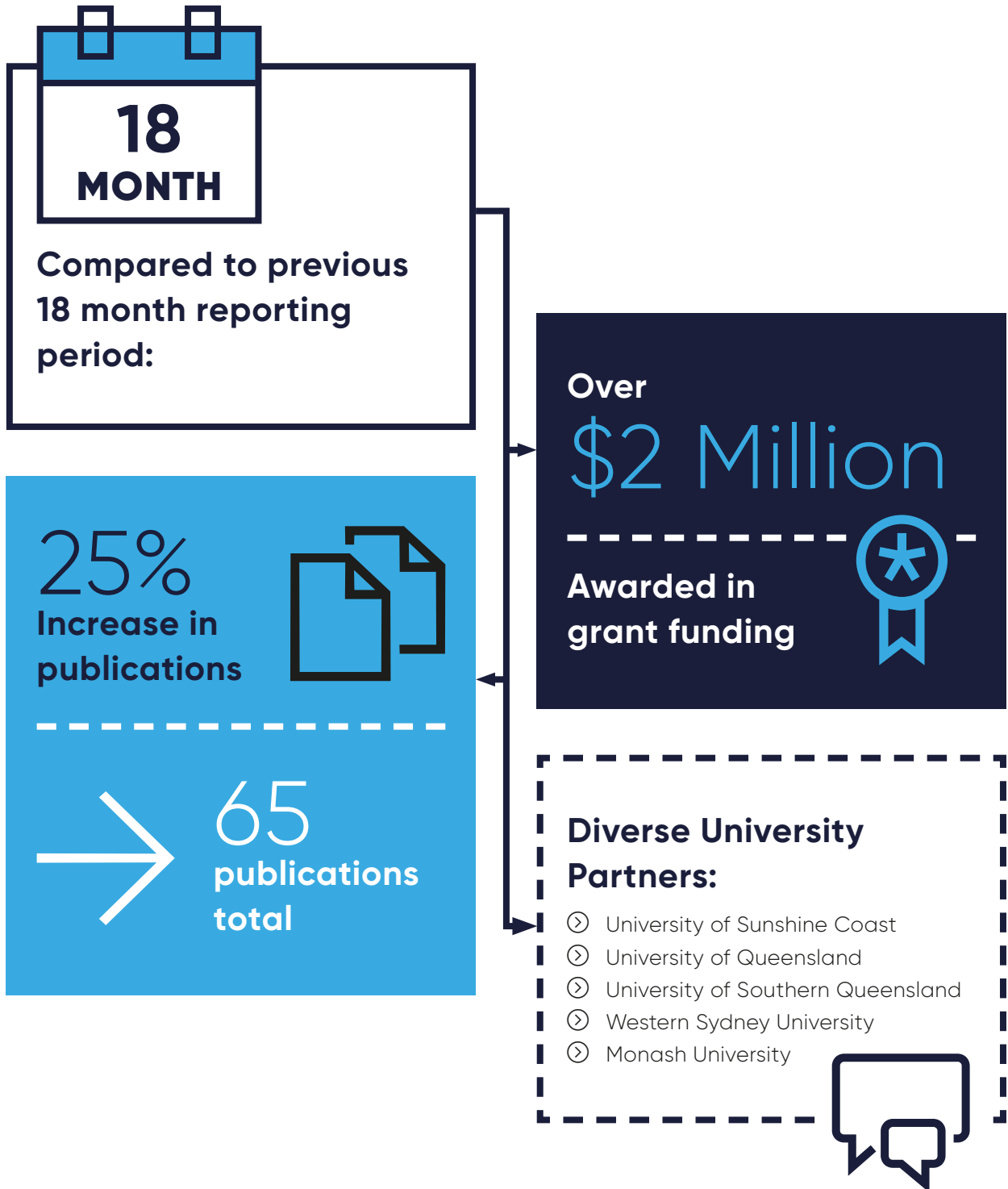
Research Report

July 2020 – December 2021

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Key Statistics



Message from CKW Executive Director

Research inspires us to constantly innovate and push for better ways of delivering healthcare that improves outcomes for our community.

I am humbled to share with you our Caboolture, Kilcoy Woodford (CKW) Clinical Directorate research report during a once in a life-time pandemic where researchers were pivotal to our success in finding better ways to prevent, diagnose and treat COVID-19. Like so many fields in health, I was proud to hear that our team of intensive care clinician researchers actively contributed to international trials which helped to shape how we improve treatments for our most vulnerable COVID-19 patients – treatments which are now recognised by the World Health Organisation.

Our growing research culture within our CKW clinical directorate is diverse and includes research that involves professionals across nursing, midwifery, medical, allied health and administration. With the support of Metro North Office of Research and Metro North's Research Strategy, we welcomed 4-year funding for two Metro North Clinician Research Fellows, Dr Thuy Frakking (Allied Health – Speech Pathologist) and Dr Mahesh Ramanan (Medical – Intensivist). Additionally, we offered our inaugural CKW Health Services Research grants in partnership with The Common Good. Projects funded have the potential to improve patient outcomes across a diverse range of fields, including paediatrics, maternity, intensive care and emergency medicine. Overall, our dedicated researchers were successful in over \$1.8M competitive grant funding – an increase of nearly 400% compared to our previous reporting period.

During this reporting period, we held our inaugural CKW Research Symposium, which was kindly sponsored by The Common Good. This forum helps to celebrate our researchers and showcases the diverse research that occurs at CKW through internal and external collaborations with multidisciplinary teams across our partners in health, academia, research institutes and wider community. I would like to take this opportunity to congratulate all our presenters, including our inaugural symposium award winners.

Finally, I am committed to continuing to grow our research culture and outcomes through new and continued

collaborations with our consumers, universities, research institutes, foundations, health services and private sector partners. Acknowledging the crucial role our partners form in driving research excellence is how we will drive better health in our community. I am proud of the work that has been done but I encourage new and emerging researchers to consider their own future contribution.

Congratulations to all and I look forward to an exciting research future for Caboolture, Kilcoy & Woodford Health Services.

I hope you enjoy our 2020-2021 CKW Research Report.



Adjunct Professor Alanna Geary
Acting Executive Director

Caboolture and Kilcoy Hospitals and Woodford (CKW) Clinical Directorate

A message from The Common Good

The Common Good is committed to helping people live healthier for longer by sustainably backing research and hospital innovation projects to their completion. The Foundation is proud to provide support to Caboolture Hospital via research grants, as well as patient programs and initiatives.

We know that research is a long game, and it takes many hours, days, months and sometimes years to ensure that no stone is left unturned in our quest to find answers. It takes time, energy, perseverance, and dedication to see research translated into tangible health outcomes for our patients now and into the future.

While the pandemic period of 2020 – 2021 required individuals and teams to realign their priorities to respond to frontline demands, The Common Good was pleased to continue to support and facilitate the work of incredible researchers who are dedicated to improving patient outcomes.

Unfortunately, COVID-19 disrupted several planned activities at Caboolture Hospital, but with a renewed focus, and a hospital expansion on the horizon, The Common Good looks forward to providing complementary services and improvements to ultimately benefit patients.

Having taken over operations of the Caboolture Hospital Café as part of our social enterprise business model in 2019, The Common Good continues to provide fresh meals, cooked on-site and quality coffee for the thousands of staff, patients and visitors who rely on the café each day. In being a central part of the hospital, The Common Good and our dedicated café team have relished in the opportunity to serve the greater Caboolture Hospital network and to build new relationships with staff, patients, and visitors.

In the June 2020 – December 2021 period, The Common Good opened the inaugural Caboolture and Kilcoy Hospitals and Woodford Corrections Health Research (CKW) grant rounds, offering research funding of up to \$10,000 for novice researchers and up to \$20,000 for project grants. The Common Good's overall investment in research in this region was \$100,000.

We are incredibly grateful for the support of our community, whose generosity makes the work of The Common Good and our research teams possible. It is only through the collective support of individuals, the community and businesses that we can advance patient outcomes now and into the future.

We would also like to acknowledge our amazing Alumni. The Common Good Alumni is a way of recognising the hard work of researchers who have completed their grant or significantly contributed to The Common Good's research projects and agenda. It importantly provides a chance for researchers to stay connected and build collaborations.

The Common Good is proud to be backing researchers at Caboolture Hospital. Every day, we are inspired by the commitment, determination and hope this extremely talented group of people bring – hope for the years and the generations to come.

To find out more, visit thecommongood.org.au



Steve Francia
Chief Executive Officer

The Common Good



THE COMMON GOOD
PEOPLE POWERING MEDICAL DISCOVERIES

CKW Research Development Unit (RDU)

The CKW RDU consists of a team of multidisciplinary research coordinators, fellows and officers.

The RDU help to build research capacity and capability across the CKW clinical directorate through advocacy of additional research support and infrastructure, linkages with academic partners, sharing of research training opportunities, delivery of local research training; and the provision of individualised advice to clinicians on research governance, design, evaluation and dissemination.

The RDU is located at Riverside Offices along the picturesque Caboolture Lakes at 7 Morayfield Rd. The team consists of part-time staff from allied health, nursing and lab-based science backgrounds:

OUR TEAM

- **Dr Thuy Frakking**, Acting Research Director
- **Dr Louise Purtell**, Senior Research Fellow
- **Dr Rhonda Dryland**, Acting Research Coordinator
- **Dr Seiji Humphries**, Research Officer
- **Julia Affleck**, Research Officer
- **Dr Alison Craswell**, University of Sunshine Coast Visiting Nursing Fellow
- **Stacey Watts**, Research Coordinator (Emergency Department, Kilcoy and Woodford)



Left to Right: Dr Thuy Frakking, Stacey Watts, Dr Seiji Humphries, Dr Rhonda Dryland, Dr Alison Craswell, Dr Louise Purtell, Julia Affleck

Research Ethics and Governance

The research governance office was restructured in 2021 to come under the Metro North Office of Research.

The previous directorate/facility-based research governance officers are now part of a single team providing research governance support across all Metro North hospitals and facilities, facilitating timely site-specific assessment review and authorisation. Site-specific assessment applications for Caboolture are reviewed by our team within 3-5 working days and authorised by the Delegate within 4 days.

The formerly known Royal Brisbane and Women's Hospital and The Prince Charles Hospital Human Research Ethics Committees were also realigned under the Metro North Office of Research in July 2022. The committees were renamed 'Metro North Health HREC A' and 'Metro North Health HREC B'. This realignment also included the restructure of HREC administrative support staff under the Metro North Office of Research.

Two new Chairs were also appointed, Dr Sarah Winch, Chair Metro North Health A; and Dr Lyn Woodward, Chair Metro North Health B.

OUR TEAM

- **Dr Rebekah Steele**, Research Ethics and Governance Manager
- **Lisa Bryant**, Research Governance Officer
- **Dr Trina Yeadon**, Research Governance Officer
- **Vanessa Constable**, Research Governance Officer
- **Jennifer Lincoln**, HREC Coordinator
- **Mamta Tanwar**, A/HREC Coordinator
- **Beibei Li**, Research Administration Officer
- **Megan Hitchen**, Assistant HREC Coordinator



Left to Right: Rebekah Steele, Lisa Bryant, Trina Yeadon, Vanessa Constable

Caboolture, Kilcoy Woodford Corrections Health Research Symposium

In October 2021, the inaugural Caboolture, Kilcoy Woodford Corrections Health Research Symposium was held at Caboolture Hospital's Lecture theatre. The symposium was designed to showcase and promote CKW-led research from across all disciplines.

There was great diversity among the presenters including research, quality improvement, novice and experienced researchers. A wide range of disciplines were represented including medicine, nursing, emergency, intensive care, physiotherapy, pharmacy, speech pathology and mental health. Dr Mahesh Ramanan, Intensive Care Medicine Staff Specialist, delivered the keynote presentation titled, "Clinical research outside tertiary, academic centres: it can be done!"

The symposium was made possible by the support of the event sponsor, The Common Good.

CKW RESEARCH SYMPOSIUM WINNERS

Research/Quality Improvement study results presentations

★ **WINNER: Thuy Frakking, Research Coordinator**

Effect of care coordination via an allied health liaison officer for chronic non-complex medical conditions (non-CMC) in children: a multi-centre randomized control trial

★ **HIGHLY COMMENDED: Sean Clark, ED Executive Director Emergency Medicine and Staff Specialist & Steven James, Lecturer Nursing, University of Sunshine Coast**

Diabetic ketoacidosis presentations in a low socioeconomic area: Are services suitable?

Research/Quality Improvement study concept presentations

★ **WINNER: Benita Suckling, Medicine Safety Pharmacist & Diane Richards, Pharmacist**

Know overdose: Opioid toxicity presentations to emergency and the opportunity to provide take-home naloxone

★ **HIGHLY COMMENDED: Dylan Flaws, Staff Specialist, Mental Health**

Tracking Outcomes Post Intensive Care (TOPIC)

Research/Quality Improvement poster presentations

★ **WINNER: Stella Snape-Jenkinson, Senior Occupational Therapist**

Partnering with students and cancer care consumers to gain insights to the needs of consumers and inspire brighter futures for occupational therapy interventions and consumers' independence

★ **HIGHLY COMMENDED: Belinda Chappell, Pharmacist & Benita Suckling, Medicine Safety Pharmacist**

An evaluation of a quality improvement activity to improve the documentation of medication patches as part of skin integrity checks

ADDITIONAL PRESENTATIONS



Keynote presentation:

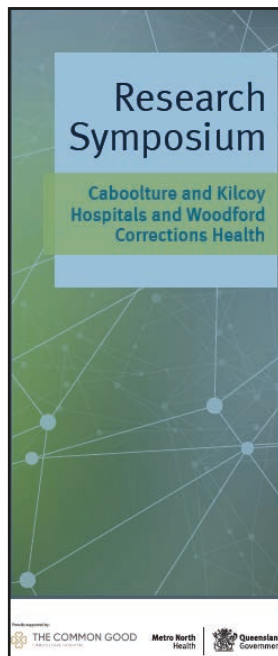
Clinical research outside tertiary, academic centres: It can be done!

Dr Mahesh Ramanan, Intensive Care Medicine Staff Specialist, Caboolture and The Prince Charles Hospitals

- **Study concept:** Persistent opioid use after hospital discharge in Australia: A systematic literature review
Benita Suckling, Medicine Safety Pharmacist
- **Study concept:** Treatment of invasively ventilated adults with Early Activity and Mobilisation (TEAM) trial, International study.
Louisa Lightfoot, Senior Physiotherapist

- Study concept:** Audit of intraoperative blood product usage and patient outcomes with point of care coagulation testing (ROTEM)
 Luke Reynolds, PHO, ICU
- Study result:** Evaluation of research capacity and culture of health professionals working with women, children and families at an Australian public hospital: A cross sectional observational study.
 Thuy Frakking, Research Coordinator & Alison Craswell, Visiting Nursing Fellow
- Study result:** Emergency surgical access.
 Amanda Zahumensky, PHO
- Study result:** Caboolture Hospital eating disorder management improvement project.
 Stacey O'Donnell, Dietitian
- Study result:** High rate of hepatitis C reinfection in an adult custodial setting in Australia.
 Enoka Gonsalkorala, Staff Specialist
- Study result:** Safety and efficacy of peripheral versus centrally administered vasopressor infusion: A single-centre retrospective observational study.
 Yogesh Apte, Staff Specialist Intensive Care
- Study result:** Are we deliriously causing patient harm? Delirium management in accordance with eTG Guidelines.
 Amy Le, Pharmacist & Jessecia Eglington & A/ Pharmacist Advanced
- Study result:** In-utero selective serotonin reuptake inhibitors effects on newborn adaptation and withdrawal symptoms: A scoping review.
 Nicol Franz, Neonatal CN/CF
- Poster:** Caboolture Hospital postoperative acute kidney injury audit 2020.
 Tze Wei (James) Phang & Glenn Hurtado
- Poster:** Vasopressor Infusion via Peripheral vs Central Access in patients with shock – The VIPCA randomized controlled feasibility trial.
 Yogesh Apte, Mahesh Ramanan, Thomas Holland, Stacey Watts, Alexis Tabah, Alison Craswell & Frances Lin
- Poster:** Quantitative classification of aspirating swallow sounds in children through digital cervical auscultation.
 Thuy Frakking, Anne Chang, Christopher Carty, Jade Newing, Kelly Weir, Belinda Schwerin & Stephen So

- Poster:** Simultaneous dual continuous renal replacement therapy for Metformin associated lactic acidosis (MALA): A case series.
 Hannah Reynolds, Hamish Pollock, Yogesh Apte, Alexis Tabah



Above top to bottom:
 Thuy Frakking,
 Enoka Gonsalkorala



Group Photo from left to right: Gunjan Chowla, Stacey Watts, Kelsey Pateman, Julia Affleck, Louise Purtell, Mahesh Ramanan, Chris Carty, Thuy Frakking

Metro North Clinician Research Fellows – Dr Thuy Frakking & Dr Mahesh Ramanan

In 2019, Metro North Health commenced offering Clinician Research Fellowships to health professionals to undertake programs of research that improves clinical care and practice. The Fellowships are prestigious and highly competitive among allied health, medical, nursing/ midwifery clinician researchers across Metro North Health.

Dr Thuy Frakking (Speech Pathologist) and Dr Mahesh Ramanan (Intensivist) were awarded Metro North Clinician Research Fellowships in 2021 and 2022, respectively. Both were one of the first recipients who were located outside of a tertiary hospital in Metro North Health.

Dr Frakking's program of research focusses on the application of machine learning on swallowing sounds in premature babies to more accurately detect swallowing impairments.

Dr Frakking says, *"using a stethoscope to listen for swallowing impairment in premature babies will help clinicians prevent avoidable lung damage through earlier detection and provide our vulnerable babies with a reliable procedure that is safe, accessible and has no exposure to radiation – unlike x-ray swallows currently utilised in practice."*

Dr Ramanan's program of research is all about developing and piloting a locally designed, digitally embedded technique of performing clinical trials at a fraction of the cost (currently, clinical trials, which constitute the top tier of medical evidence, are very expensive to perform). He aims to expand clinical trials access to patients at all public ICUs in Queensland by embedding research into the electronic medical record.

Dr Ramanan says, *"why should clinical trials access be limited to patients at inner-city tertiary ICUs, when most of Queensland's population lives in the suburbs or in rural/regional areas? We already have the electronic medical records technology. We just have to use it smartly to answer the key clinical questions that can improve the healthcare we provide."*

Having clinicians at Caboolture Hospital recognised and supported to conduct research locally helps to

drive improvements to the delivery of healthcare for our community that is meaningful.

Former Executive Director, Angie Dobbrick, expresses her congratulations and thoughts about Caboolture's recent successes with the Metro North Clinician Research Fellowship scheme, *"Dr Frakking and Dr Ramanan are our local research leaders who help to cultivate our growing research active culture among health professionals. I am looking forward to hearing about the outcomes of their research programs and sharing further successes among more clinician researchers across our clinical directorate. Congratulations Thuy and Mahesh!"*



Photo: Thuy Frakking and Mahesh Ramanan

FEATURED ARTICLE

Experiences of a visiting nursing research fellow

Dr Alison Craswell, Registered Nurse and Senior Research Fellow at the University of Sunshine Coast (UniSC), commenced at Caboolture Hospital as a visiting nursing research fellow in 2019. Funded by USC, Dr Craswell's role assists in building research capacity with nursing/midwifery clinicians and helps to facilitate stronger connections between USC and Caboolture Hospital.

Four years on, Dr Craswell is embedded as an integral member of our research community with Caboolture and Kilcoy Hospitals and Woodford Corrections Clinical Directorate. We sat for an interview with Dr Craswell recently to chat with her about her experiences at Caboolture Hospital:

You are an experienced researcher with a growing track record. What were your first impressions?

Lucky for me, at the time I started, there was a strong culture of research within the Research Development Unit (RDU) at Caboolture Hospital, having a (soon to be appointed) Director, several research coordinators and research officers. This group welcomed me, and I immediately had support for the role. Similarly, I was supported by the Director of Nursing and Nursing Directors for each stream through sharing of ideas that might need researching at monthly nursing leadership meetings for the hospital. Unlucky for me, the RDU team had been relocated offsite at Riverside for the redevelopment which meant access to clinicians was not as easy as I had envisioned.

I see you talking and meeting with so many clinicians onsite over the past few years. What is typically involved in your role here?

This role has involved a lot of meeting and getting to know people and their ideas – these were sometimes presented as a problem that needed solving or as an innovation to make something work more efficiently.

Other times, it was simply a lack of time nursing clinicians had to find the best available evidence to follow to make a change in practice and how to translate that to the clinical area.

How did you get started with being involved in nursing/midwifery led research at Caboolture?

Firstly, once I found some interested clinicians and had support of the stream leads, I got Caboolture involved as a site on existing or new projects. This helped to get nursing clinicians exposed to research teams, research methods and the benefits of doing something a bit different to their clinical role. Some nurses ran with this and became the local researcher on a study, while others started working on researchable questions.

What are some key highlights you can share with us?

We participated in studies that have led to publications, conference presentations and clinical impact including:

- Sandra Lee from Antenatal Clinic Vegetable intake in pregnancy
- Catherine Alexander from Women's and Families Decision making and use of intravenous catheters in labour and birth
- Katrina Cook from ICU multi-site study Research Priority setting for nursing research in ICU settings
- Gemma Cockroft from Nursing education Piloting of an in-house student facilitation model (DEU) for nursing education

We applied for grants and were successful leading to new studies now in progress including

- Stacey Watts and colleagues Vasopressor Infusion via Peripheral vs Central Access in emergency department patients with shock – The VIPCA RCT
- Jeff Anderson, April Hatt and colleagues Post-operative functional recovery in older adults who have undergone emergency non- cardiac surgery – a multisite prospective longitudinal cohort study
- Aletta Cowan leading the Nurse Practitioners from ED to change scope of practice CT scan requests by Nurse Practitioners in the emergency department of a community hospital for presentations of minor trauma and infections including older adults.

“ That’s a pretty impressive list of achievements in a short few years- what would be your proudest achievement?

It is that the research we have done has had impact, has changed practice, and improved outcomes for Caboolture patients, communities and the staff who work here. This ranges from changing practice to use smaller diameter intravenous catheters in birthing women, to increasing the support for nursing clinicians who in turn support increasing numbers of nursing students through the Dedicated Education Unit model and lastly recognising the need for further research to improve the flow in ICU.

One extra mention was a clinician who I met through the Post-operative functional recovery study who I mentored to assist with an application for a PhD scholarship. When I heard she was successful, I felt pretty good.

“ Finally, would you recommend colleagues to do nursing/midwifery led research within our CKW Clinical Directorate?

Absolutely. Research is a way to determine if what you do makes a difference to our patients and the care we provide. It gives us knowledge and informs evidence-based practice. And I know I am biased but it’s fun!



D dimer adjusted to low clinical probability in the diagnosis of suspected pulmonary embolism

Emergency Department Staff Specialist Dr Karen Furlong was awarded \$21, 783 via an Emergency Medicine Foundation Jumpstart grant scheme to undertake a retrospective cohort study to determine whether applying a higher cut-off d-dimer to low-risk patients who present to the ED, is a safe strategy in ruling out pulmonary embolism.

Pulmonary embolism (PE) is the 3rd most common presenting acute cardiovascular syndrome and often results in significant harm and death. Clinical decision-making tools exist to guide clinicians in making a definitive diagnosis of PE, however, it is equally important to have validated tools to exclude such conditions, and in turn, ensure optimum resource utilisation. Clinical decision rules such as Wells score, pulmonary embolism rule out criteria (PERC), Modified Geneva score, simplified Charlotte rule and Pisa model, are based on symptoms or observations, and allow a patient's clinical pre-test probability of having a PE to be classified. The pre-test probability will determine if no further testing is required, or alternatively which further tests, such as D-dimer, or imaging can be employed to establish a definitive diagnosis.

A d-dimer is a blood test that measures the presence of a protein fragment called D-dimer. This fragment is produced when a blood clot dissolves in the body. Therefore, high levels of D-dimer in the blood can indicate the presence of blood clots, such as deep vein thrombosis or pulmonary embolism. The test is commonly used to help diagnose and monitor the treatment of these conditions.

Applying a higher cut off to low-risk patients has potential for better patient outcomes and reduced health care costs. Dr Furlong's study found patient benefits for a high-volume presenting population, with a high-stake presenting complaint included reduced length of stay in ED, as well as a reduction in medical imaging. All medical imaging carries risk of harmful radiation exposure so by eliminating potential low value investigations in low-risk

patients, we reduce patient risk via potentially avoidable radiation exposure. Other studies have shown reduced imaging is not associated with a reduction in diagnostic performance. The flow on effects of reduced imaging is decreased costs to the health system. This study found that 323 scans could be avoided by using the adjusted D-dimer.

This was Dr Furlong's first investigator-led project. This formative study provides evidence regarding the efficacy of a higher cut off D-dimer in low-risk groups and lays the foundation for a potential multisite prospective registry to safely implement the new criteria in the Australian context.

Dr Furlong plans to build on this body of work to inform future value-based evaluations and monitor patient safety.

Research growth within the CKW Emergency Department

Research growth within the ED has been steady following the awarding of a Metro North Research Coordinator grant to Dr Sean Clark in 2020.

The resultant permanent appointment of a Clinical Research Nurse has seen a continued focus on research capacity building; through development of local investigator driven research and igniting participation in multicentre national and international trials.

SELECTED RESEARCH HIGHLIGHTS

★ Woodford Correctional Centre Physiotherapy Outreach

ED physiotherapist Wendy Milway identified a need to improve access to physiotherapy services for the Woodford Correctional Centre population, so the concept of integrating a physiotherapy outreach service into the existing medical clinic was born. The aim is to reduce the requirement for inter-facility transfers for physiotherapy referrals and provide a level of service equivalent to community access. Following a successful pilot trial, Wendy received \$25,000 funding to undertake a full quality assurance project, which was approved by the Queensland Corrective Services Research and Evaluation Committee and is currently nearing completion.



Left to right (seated): Louise Purtell, Wendy Milway.

Left to right (standing): David Thompson, Nathanael Kirsch, Paul Kemp

★ Emergency department diabetic ketoacidosis (DKA) presentations in people with type 1 diabetes: a pilot study to improve clinical and public health system outcomes.

This two-phase study aimed to first establish the problem of people with T1 diabetes presenting to our facility in DKA, and then to seek explanations as to why this occurs and how it might be corrected. The project, led by Dr Sean Clark, in association with Dr Steven James from University of Sunshine Coast, was funded by an Emergency Medicine Foundation project grant and Phase 1 was recently published in the BMC Health Research Services journal. The second phase is currently under review for publication.

★ Trainee Preparedness

Caring for frequent attendees to the emergency department is a daunting experience for trainees. ED Staff Specialist Dr Mark Scott teamed up with past Caboolture trainee, Dr Claire Bertenshaw, to deliver a perspectives piece providing insights to aid the trainee in comfortably working through cases confronted during training and making decisions with confidence, that was published in Emergency Medicine Australasia.

★ Sustaining improvements in the management of infants with bronchiolitis – a PREDICT study

The paediatric research in emergency departments international collaborative (PREDICT) will lead this NHMRC funded study, sponsored by the Murdoch Children's Research Institute. The findings will determine the information needs of the ED and paediatric inpatient communities and inform the content by which to deliver implementation strategies to promote and sustain evidence-based management of infants with bronchiolitis. 26 hospitals across Australia and New Zealand will take part in this study, that follows on from the 'Knowledge Translation in Australasian Paediatric Acute Care' trial, undertaken by the same Investigative group. The Principal Investigator for Caboolture is ED Staff Specialist Dr Suzanne Kenny, with Dr Lisa Kane the Paediatric Lead Investigator.

Peripheral intravenous catheter management in childbirth (PICMIC) study

Title: Peripheral intravenous catheter management in childbirth (PICMIC) study

Chief Investigators: A/Prof Lauren Kearney; Dr Alison Craswell

Caboolture Hospital Investigator: Catherine Alexander.

Presentation

Grand Rounds April 2021

Infographic

Developed and disseminated into maternity settings in Caboolture and Royal Brisbane and Women's Hospitals.

BACKGROUND / STUDY INFORMATION:

Very limited research investigating peripheral intravenous catheter (PIVC) use in the birthing population. Widespread use of PIVCs (mostly large bore) in birthing women. Lack of insertion teams in Maternity settings. Limited research suggests clinical practice varies from International PIVC guidelines

WHY CABOOLTURE WAS CHOSEN AS A SITE?

Women's and Families are supporters of evidence-based practice (EBP) and shown keen interest in being part of research which changes practice.

STUDY PROGRESS

Completed

Impact and outcomes:

Large bore catheters remain ubiquitous in birthing with all women in our study receiving either a 16 or 18 g PIVC, consistent with previous local and international research. Decision making related to confidence with use of the gauge (51%) and for quick access (45%). Insertions predominantly in the back of the hand (53%) or wrist (13%) for fluid or medication however, flow through a 16–18-gauge catheter in the back of the hand has been found to be similar to a 20-gauge due to the small vessel size. Therefore, if a larger bore catheter is needed, use the forearm site and consider best practice guidelines for adults.

Publication in Q1 Journal

Kearney L, Craswell A, Massey D, Marsh N, Nugent R, Alexander C, Smitheran C, Mcloughlin A, Ullman A. Peripheral intravenous catheter management in childbirth (PICMIC): A multi-centre, prospective cohort study. *Journal of Advanced Nursing* 2021; 77(11):4451–4458. doi:10.1111/jan.14933



Clinical Trials and the Caboolture Hospital ICU

Between July 2020 and December 2021 Caboolture Hospital ICU has participated in several large multi-national trials.

The randomized, embedded, multifactorial adaptive platform trial for community-acquired pneumonia (REMAP-CAP) trial is the largest worldwide trial Caboolture Hospital is currently participating in.

Caboolture Hospital is one of 361 REMAP-CAP active sites, across 21 countries. The REMAP-CAP trial aims to improve survival and recovery for patients with pneumonia. The novel design of this platform trial allows the information from patients already in the study to help new patients joining the study. Since the beginning of the COVID-19 pandemic, REMAP-CAP has expanded significantly to evaluate therapies for this disease.



The very first randomised trial that Caboolture ICU has participated in, beta lactam continuous infusion versus intermittent infusion in septic (BLING III), will complete their multi-national recruitment in mid-2022. Funded by NHMRC and sponsored by the George Institute of Global Health, the BLING-III trial aims to find out whether continuous infusion of beta-lactam antibiotics or intermittent infusion of beta-lactam antibiotics, offers more health advantages to patients or if there is no difference. When recruitment is indexed to ICU beds, Caboolture has consistently been one of the highest recruiting sites in the world.



Caboolture Hospital ICU team, along with Caboolture Hospital Physiotherapist, Louisa Lightfoot, participated in a prospective multicentre Phase II Randomised Controlled Trial of Early Activity and Mobilisation (TEAM III) trial. This multidisciplinary study

was developed to evaluate the effect of early activity and mobilisation during prolonged invasive mechanical ventilation. Recruitment is now complete, with 750 patients enrolled across 48 sites nationwide.

Short period incidence study of severe acute respiratory infection (SPRINT-SARI), is a hospital-based surveillance data base that enables the real time tracking and reporting of the sickest patients with COVID-19 in

Australian hospitals and intensive Care Units. Caboolture ICU has been participating in this observational study throughout the COVID-19 pandemic.



In addition to the active and recently completed clinical trials, yearly Caboolture ICU participates in the Australian and New Zealand Intensive Care Society Clinical Trials Group (ANZICS CTG) and The George Institute of Health collaborative the Point Prevalence Program (PPP). This project provides infrastructure to conduct several multi-centre observational studies simultaneously on specified study days each year. Participation in the PPP improves the efficiency of the collection of observational data that helps design clinical trial protocols for future ANZICS CTG studies.



Leading into 2022, the Caboolture Hospital ICU plans to further expand its clinical trial involvement including participation in the MEGA-ROX (mega randomised registry trial comparing conservative vs liberal oxygenation targets) trial, SPICE-IV (early sedation with dexmedetomidine vs placebo in older ventilated critically ill patients) and the ARISE (Australasian resuscitation in sepsis evaluation) randomised controlled trial.



L to R: Yogesh Apte, Katrina Cook, Melissa Petty, Stacey Watts, Mahesh Ramanan



Mahesh Ramanan



Stacey Watts & Katrina Cook

AsSessment Of AUtism iN ChildRen (SOUND) study

A multidisciplinary group of paediatric clinicians across allied health, medicine and nursing at Caboolture and The Prince Charles Hospital were successful in a 2021 Allied Health Professions of Queensland \$152K grant to investigate more efficient models of care for the assessment of autism in children.

Chief Investigator, Dr Thuy Frakking, explains that "it is crucial that children with ASD have streamlined access to early diagnosis as soon as possible to help support their early intervention needs. Finding high-value models of care within Queensland Health can help achieve this goal in an efficient and timely manner using an evidence-based approach."

The research team, pictured below, published their study protocol in the BMC Paediatrics and commenced recruitment in April 2022.

Current models of care that offer assessment for autism spectrum disorder (ASD) are often time-consuming and complex across multiple organisations. The AsSessment Of AUtism iN ChildRen (SOUND) study is a multi-site 2-year randomised control trial that aims to compare caregiver satisfaction and health system costs for allied health versus medical led models of care. The study is hoping to recruit 52 children and their families across Caboolture Hospital and The Prince Charles Hospital general outpatient clinics.



Left to right: Seiji Humphries, Annabelle Marozza, Dr Lisa Kane, Michelle Kilah

Tracking Outcomes Post Intensive Care (TOPIC)

Caboolture Hospital Psychiatrist Associate Professor Dylan Flaws and Dr Mahesh Ramanan were part of a collaborative Metro North Health and Queensland University of Technology team who led the Tracking Outcomes Post Intensive Care (TOPIC) study.

Funded by a Collaborative Research Grant, this prospective, multi-site observational study collected data from participants 6 weeks and 6 months post ICU discharge to help support the development of screening, diagnostic, and outcome measures to improve post-ICU recovery.

Title: Tracking Outcomes Post Intensive Care (TOPIC)

Chief Investigator: A/Prof. Dylan Flaws

Caboolture Hospital Investigator: Dr. Mahesh Ramanan

BACKGROUND / STUDY INFORMATION:

Critically ill patients are more likely to survive intensive care than ever before due to advances in treatment. However, a proportion subsequently experiences post-intensive care syndrome (PICS) incurring substantial personal, social, and economic costs. PICS is a debilitating set of physical, psychological, and cognitive sequelae but the size and characteristics of the affected population have been difficult to describe, impeding progress in intensive care rehabilitation.

TOPIC is a prospective, multi-site observational study using self-report and clinical data on risk factors, including comorbidities, and outcomes. Data will be collected with consent from hospital records and participants 6 weeks and 6 months post ICU discharge.

The aim is to improve the effectiveness of post-ICU prevention and rehabilitation through more targeted screening and prediction and fund a program of research developing a more tailored approach to PICS.

WHY CABOOLTURE WAS CHOSEN AS A SITE?

Intention was to collect a representative sample of entire Metro North ICU population.

STUDY PROGRESS

Publications

- **Flaws, D. F., Barnett, A., Fraser, J., Latu, J., Ramanan, M., Tabah, A., ... & Patterson, S.** (2021). A protocol for tracking outcomes post intensive care. *Nursing in Critical Care*.
- **Flaws D, Manning J.** Post intensive care syndrome across the life course: Looking to the future of paediatric and adult critical care survivorship. *Nursing in Critical Care*. 2021 Mar 19;26(2).
- **Flaws D, Patterson S, Fraser J, Tronstad O, Scott JG.** Reconceptualizing post-intensive care syndrome: do we need to unpick our PICS?. *Nursing in critical care*. 2021 Mar;26(2):67–9.

Other collaborations

- Early stage of collaboration with Dr. Tara Quasim from InS:PIRE in Glasgow
- Early stage of collaboration with Dr. Carla Sevin from Nashville Post ICU Clinic
- Planning post ICU recovery conference with Prof. Danny McAuley from Ireland

Outcomes

- 227 participants recruited
- History of previous mental health diagnosis significantly associated with complicated ICU recovery (Physical, cognitive, psychological)
- Patients admitted to ICU for <72hrs still have significant rates of complicated recovery

What's next?

Drafting 5 papers:

- Paper for Nursing in Critical Care looking at 6 month outcomes
- Paper for Annals of Intensive Care looking at PICS subphenotypes
- Paper for Lancet Respiratory Medicine looking at effect of length of ICU stay on outcomes
- Paper for Trauma – case series of participants presenting with trauma
- Paper for (journal not selected yet) looking at early onset vs. late onset PICS

Ongoing studies

- URTOPIIC – Qualitative study of patients recovering after an ICU admission with trauma
- EPARIS – Pilot RCT looking at feasibility and acceptability of an early psychiatric review after an ICU admission.

Research in PracticE Program

The Research in PracticE (RIPE) program was developed to address a gap in research skills and experience among the prevocational doctor workforce at Caboolture Hospital.

Developed by Research Coordinator Dr Kelsey Pateman, RIPE is a partnership between the Medical Education Unit and the Research Development (RDU) at Caboolture Hospital.

The program introduced interns to research / quality improvement projects while also providing support and mentoring to clinical research leads.

Four education sessions and weekly drop-in sessions were run by RDU staff members and the end of year Intern Research Showcase allowed interns the opportunity to present their projects.

“

I am very grateful to have been able to participate in the RIPE program during my intern year at the Caboolture Hospital. The sessions delivered by the research team sparked my interest in participating in quality improvement projects. The team have been greatly supportive in helping me further my skills in research – I have become the project lead of a quality improvement study this year!

Dr Kimberly Hardwick, 2022 JHO Caboolture Hospital

“

As an intern, I would have shied away from research as I lacked knowledge and prior experience. The program has provided me a supported opportunity to explore research concepts and design a project under a research lead. As a result, I will be the research lead of my own project this year and contributing to the program in hopes of helping other junior doctors such as myself in becoming more comfortable with research.

Dr Kinki Kue, 2022 JHO Caboolture Hospital



Dr. Kelsey Pateman

COVID-19 Critical Care Consortium

Chief Investigator: Professor John Fraser, A/Prof Gianluigi Li Bassi, Dr Jacky Suen

Caboolture Hospital Investigator: Dr Mahesh Ramanan

BACKGROUND / STUDY INFORMATION

The study, Extra Corporeal Membrane Oxygenation (ECMO) for 2019 novel Coronavirus Acute Respiratory Disease (COVID-19 Critical Care Consortium), is a prospective/retrospective multi-centre short period incidence observational study of intensive care unit patients with COVID-19. The study's aim and objectives are to describe clinical features, the severity of pulmonary dysfunction, ECMO technical characteristics, duration of ECMO, complications, and survival of patients with COVID-19.

WHY CABOOLTURE WAS CHOSEN AS A SITE?

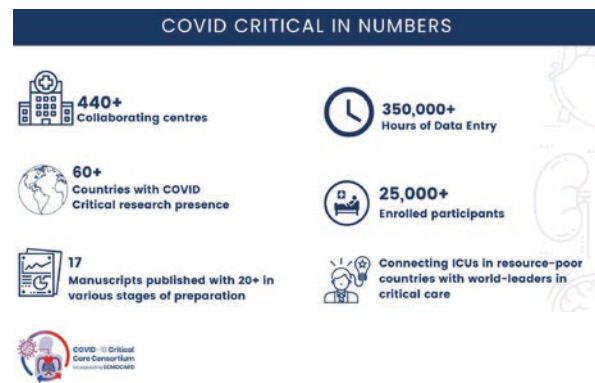
Caboolture is a collaborating site. Caboolture joined the study due to their ICU and provision of critical care services to a large segment of Metro North's catchment.

STUDY PROGRESS

As at May 2023, the study includes more than 26,000 patients, with 380 sites across 54 countries worldwide.

Impact and outcomes

In total, there have now been 19 publications from the consortium with 6 more submitted or under revision. A full list of publications can be found at the following link: <https://www.covid-critical.com/publications>. Data from the consortium has demonstrated some of the earliest evidence of stroke/neurologic injury in critically-ill COVID-19 patients, has been used to prove the efficacy of ECMO for treating patients with severe COVID-19 respiratory failure, and has informed medical-oxygen planning figures in developing countries.



Integration of evidence-based inpatient rehabilitation nursing: how is evidence embedded in the clinical culture?

Chief Investigator: Theresa Green, RN PhD

Caboolture Hospital Investigator: Anne Hopper Clinical Nurse Educator

BACKGROUND / STUDY INFORMATION

To understand and support the integration of nursing inquiry and evidence-based practice into the rehabilitation nursing culture, we examined nurses' perspectives of their use of evidence to help them achieve their personal goals for provision of quality rehabilitation care in their day-to-day clinical practice.

WHY WAS CABOOLTURE CHOSEN AS A SITE?

The site offered inpatient and outpatient rehabilitation services within the Metro North Health, and agreement from nursing administration/clinical area to be involved.

STUDY PROGRESS

- Redcap survey distributed to rehabilitation nursing staff across Metro North Health sites, including Redcliffe and Caboolture
- Data collection and analyses completed in 2022
- Study formally closed 2023 with publication of results pending

Impact and outcomes

- Key results:
 - 23% actively look for evidence to support clinical practice, 46% look regularly, and 30% occasionally
 - > proportion of Clinical Nurses (83%) looked for evidence supporting clinical practice than RNs (25%)
 - Of the RN's, 50% indicated they looked for evidence occasionally
- Implementation of evidence-based practice (EBP): typically to confirm current patient care, general interest, explore treatment options, prep for in-service; ½ of respondents looked for evidence to support development of continuous professional

goals (CPGs), due to a clinical event or incident, or for assignments/educational courses.

- Access to information typically via mobile device (86%), at home (695), or ward/department/hospital office (61%)
- Information sources: professional journals (77%), relevant databases (925), internet (100%)
 - most prominent form of information sharing was via in-person discussion and collaboration with colleagues, along with electronic communication.
- Furthering education and knowledge was the primary answer for what skills would be needed to support participants further in EBP
- Interim results presented in an oral session at the 2021 International Neuroscience Nursing Research Symposium, Dallas Texas USA
- Final results presented at the Australasian Rehabilitation Nursing Conference 2021
- Results were used to inform the initial rehabilitation nursing practice units at the Metro North Health Surgical Treatment and Rehabilitation Service (STARS) facility



Professor Theresa Green

ARISE FLUIDS

Title: "Australasian Resuscitation In Sepsis Evaluation: FLUID or vasopressors In emergency Department Sepsis – ARISE FLUIDS.

Chief Investigator: Prof. Sandra Peake and A/Prof. Stephen Macdonald

Caboolture Hospital Investigators: Dr Maya Aoude, Dr Umesh Subbanna, Stacey Watts

BACKGROUND / STUDY INFORMATION

The optimal approach to haemodynamic resuscitation in patients with septic shock is uncertain. Conventional practice, supported by international consensus guidelines, is initial administration of 30 ml/kg of intravenous (IV) fluids for newly diagnosed septic shock.

Emerging reports of poorer outcomes associated with excessive IV fluids has led to more recent variation in practice with some clinicians favouring smaller fluid volumes combined with early vasopressor administration to restore systemic blood pressure.

The impact on clinical outcomes among patients with septic shock presenting to emergency departments in Australia and New Zealand is unknown. The ARISE FLUIDS trial compares the effect of a strategy of restricted fluids and early introduction of vasopressors to a strategy which involves a larger initial volume of IV fluid and later vasopressor administration if required, for haemodynamic resuscitation of patients with early septic shock.

This trial will provide robust evidence for clinicians regarding the optimal approach to early haemodynamic resuscitation in septic shock to improve patient-centred clinical outcomes.

WHY CABOOLTURE WAS CHOSEN AS A SITE?

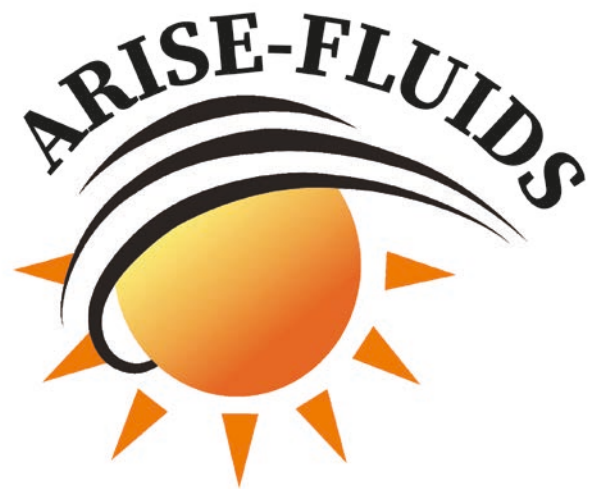
Caboolture was selected as a site due to the interest of Caboolture Hospital clinicians to provide best evidence based care for patients, the research expertise of staff and a trial desire to include a range of hospitals for generalisability of results.

STUDY PROGRESS

218 participants of the total 1000 participants have been recruited to date.

Impact and outcomes

The ARISE FLUIDS trial results will impact the international consensus guidelines on management of patients with septic shock and inform clinical care globally.





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Grants

Grant recipients from Caboolture & Kilcoy Hospitals and Woodford Corrections Health staff between July 2020 – 2021.

Project title	Chief investigator and (other CKW staff)	Grant type	Total Funding Awarded
High value allied health models for the assessment of autism in children	Thuy Frakking Annabelle Marozza	2021 HP Research Scheme (AHPOQ)	\$152,505
D-dimer adjusted to low clinical probability in the diagnosis of suspected pulmonary embolism – is it safe in an urban emergency department?	Karen Furlong	Emergency medicine Foundation (EMF) – Jumpstart Grant	\$21,783
Woodford Correctional Centre physiotherapy outreach pilot project	Wendy Milway	Office of Prisoner Health and Wellbeing	\$25,000
Nasal high flow oxygen therapy after cardiac surgery (NOTACS Trial)	Mahesh Ramanan	MRFF ICTC (International Clinical Trials Collaboration)	\$1,460,861.70
Standardisation of swallowing sounds	Thuy Frakking Manuel Bautista, Anne Clayton, Sarah Day	Children's Hospital Foundation Early Career Research project Support (2020)	\$35,567
Diabetic ketoacidosis service mapping	Steven James (USC) Stacey Watts, Thuy Frakking, Sean Clark	Emergency Medicine Foundation (EMF) – Staff Specialist Grants (2022)	\$39,999
SHORT Sensory Profile2 information and relevance to diagnosis of Attention Deficit Hyperactivity (ADHD) and Autism Spectrum Disorder (ASD) in 7-13 year old Australian children.	Annabelle Marozza, Thuy Frakking, Karen Hay	2022 CKW Common Good Grants	\$10,000
Vasopressor Infusion via Peripheral vs Central Access in patients with shock – The VIPCA randomised controlled feasibility trial	Mahesh Ramanan, Yogesh Apte, Stacey Watts, Thomas Holland	2022 CKW Common Good Grants	\$20,000
Swallowing sounds in premature babies (SUPERB) study	Thuy Frakking, Manuel Bautista, Anne Clayton, Stephen So, Belinda Schwerin	2022 CKW Common Good Grants	\$19,010.32
Improving rapid access to care for patients with type 1 diabetes – a needs analysis	Sean Clark, Steven James, Karen Furlong, Marc Broadbent	2022 CKW Common Good Grants	\$19,981.00
Outcomes of breech birth by mode of delivery across hospitals within Metro North Health: a retrospective observational study	Shahida Rehman, Christoph Lehner, Thuy Frakking, Alison Craswell, Anne Clayton, Karen Hay, Julia Affleck	2022 CKW Common Good Grants	\$9,796.00
Evaluating an innovative model of antenatal care for young, vulnerable mothers	Deborah Sutherland, Kylie Bolland, Joseph Debattista, Judith Dean	2022 CKW Common Good Grants	\$10,000.00
CT scan requests by Nurse Practitioners in the emergency department of a community hospital for presentations of minor trauma and infections including older adults	Aletta Cowen, Stacey Watts, Nerys Brackman, Alison Craswell (Since transferred from Aletta Cowen to Dimple Charters)	2022 CKW Common Good Grants	\$9,952.00

SSA Approved Research Studies

Caboolture & Kilcoy Hospitals and Woodford Corrections Health Services SSA approved research studies authorised between July 2020 – December 2021.

SSA ref. no.	Principal investigator and/or CKW site contact	Project Title	Steam/ Service	Primary MNHHS Department
38425	Alastair Newton	Impact of legislation changes to involuntary orders on emergency department presentations: a retrospective chart audit	Surgery	Medical
40992	Judith Maher (USC)	Vegetable intake of pregnant women	Anaesthetics and Surgery	Medical
47682	Peta Howie (CHQHHS)	Evaluation of right at home program in the Child Health Service	Allied Health	Speech Pathology
53507	Thomas Arthur (Toowoomba Hospital), Jessica Ng	The Regional Queensland Colorectal Cancer Survival Study	Intensive Care	Medical
56903	Jennifer Dermer (USC), Julie Lahey	Exploring nurse's experiences of basic life support in non-intensive care hospital wards	Intensive Care	Medical
59863	Andrew Maurice (UQ, MNHHS and Townsville Hospital)	Laparoscopic appendicectomy versus antibiotics for radiologically confirmed acute uncomplicated appendicitis: a multi-site randomised controlled trial	Surgery	Medical
60144	Matthys Campher	Tranexamic acid to Reduce Infection after Gastrointestinal Surgery: the TRIGS trial	Anaesthetics and Surgery	Medical
60805	Clare Burns	Co-design, development, and evaluation of an immersive virtual reality therapy tool for individuals with communication disorder.	Allied Health	Speech Pathology
61410	Mahesh Ramanan	Discharge destination after cardiac surgery in Australia and New Zealand	Intensive Care	Medical
62066	John Fraser, Alexis Tabah	Extra Corporeal Membrane Oxygenation for 2019 novel Coronavirus Acute Respiratory Disease (ECMOCARD)	Intensive Care	Medical
62075	Simone Naughton (CQU), Ben Ballard	Providing woman-centred care in complex pregnancy situations: the role of the midwife navigator	Nursing	Nursing
64051	Joshua Byrnes (Griffith University), Peter Lazzarini, Sarah Jensen, Danielle Charles	An economic evaluation of a novel funding model for diabetic foot disease	Allied Health	Podiatry
65705	Theresa Green (UQ)	Integration of evidence-based inpatient rehabilitation nursing: how is evidence embedded in the clinical culture?	Nursing	Nursing
65793	Karen Furlong, Stacey Watts	D-Dimer Adjusted to Low Clinical Probability in the Diagnosis of Suspected Pulmonary Embolism- It is safe in urban emergency department?	Emergency	Medical
65960	Thuy Frakking	Research capacity and culture of health professionals working with women, children and families at a community public hospital	Research & Paediatrics	Allied Health & Medical

SSA ref. no.	Principal investigator and/or CKW site contact	Project Title	Stream/Service	Primary MNHHS Department
66683	Kevin Laupland, Felicity Edwards (QUT)	Optimising utilisation and outcomes of critical illness: A multicentred, interdisciplinary collaborative in Queensland	Intensive Care	Medical
67207	Adam Kent	Exploring the impact of an organisational restructure in a regional Queensland hospital	Medical Administration	Administration
67532	Miron Kazi, Stacey Watts	Strategic Reperfusion in elderly patients Early After Myocardial Infarction (STREAM-2).	Emergency	Medical
68095	Cassandra Yee, Michelle Suter	Nutrition practice in critically ill adults – an observational study	Allied Health	Nutrition & Dietetics
68574	Laura Howse	Challenges and perceived training requirements of students and clinical educators in order to meet documentation standards during clinical placements	Allied Health	Physiotherapy
68781	Matthew Black, Gunjan Chowla	Attitudes toward antibiotic use in pregnancy and after birth – a survey of Australian women	Maternity	Medical
69472	Mahesh Ramanan	Mega randomised registry trial comparing conservative versus liberal oxygenation targets (Mega-ROX)	Intensive Care	Medical
69552	Jamil Ahmed	A single centre experience in stress testing. It's diagnostic accuracy, long term outcome and it's future role as a diagnostic procedure.	Medicine	Internal Med
70126	Nastaran Rafiei, Anna Maria (UQ)	Duration of bloodstream infection as measured by conventional cultures compared with novel culture independent systems and persistence of biomarkers with severe infection	Medicine	Infectious Disease
71800	Florian Grimpén, Kimberley Ryan	Impact of an upper gastrointestinal bleeding pathway on clinical outcomes and hospital processes	Medicine	Gastroenterology & Hepatology
72027	Katrina Cook	Establishing critical care nursing research priorities for public hospitals in the Moreton Bay to Fraser Coast Region: a multisite mixed method study	Intensive Care	Nursing
72801	Gai Harrison	The development of a theoretical framework to guide social work practitioners in health settings assess and intervene with elder abuse	Allied Health	Social Work
75125	Nicole Marsh	Difficult Access Requires Thought, Training and Technology (DART3): Co-developing an ultrasound pathway for patients with difficult intravenous access.	Medicine	Nursing & Midwifery
76562	Monica-Leigh Reitano	Evaluation of Beyond Blue's The Way Back Support Service	Mental Health	Mental Health
76740	Bernadette Knowles	Implementation of TTNS in practice: an observational study of outcomes, compliance, and long-term compliance	Allied Health	Physiotherapy
76999	Thuy Frakking, Anne Clayton, Sarah Day, Manuel Bautista	Swallowing Sounds in Premature Babies (SUPERB)	Allied Health	Women, Children and Family & Speech Pathology
77040	Thuy Frakking, Seiji Humphries, Lisa Kane, Annabelle Marozza, Michelle Kilah	Assessment of Autism in Children (SOUND).	Allied Health	Women, Children and Family & Speech Pathology

Awards

Research award recipients from Caboolture & Kilcoy Hospitals and Woodford Corrections Health staff between July 2020 – 2021.

Project title	Chief investigator and (other CKW staff)	Grant type
Thuy Frakking	2021 European Society of Swallowing Disorders	Best poster
Janine O'Keefe	2021 Sustainable Health Care Awards	Special commendation – Pivot Model, Caboolture ED
Thuy Frakking	MNHHS Research Excellence Awards	Rising Star, Finalist
Stacey Watts	2021 Caring Together Staff Excellence Awards	Highly commended, Research
Benita Suckling & Diane Richards	2021 CKW Research Symposium	Best research study concept oral presentation
Thuy Frakking	2021 CKW Research Symposium	Best research results oral presentation
Stella Snape-Jenkinson	2021 CKW Research Symposium	Best poster presentation
Sean Clark	2021 CKW Research Symposium	Highly commended research study results oral presentation
Dylan Flaws	2021 CKW Research Symposium	Highly commended research results oral presentation
Belinda Chappell & Benita Suckling	2021 CKW Research Symposium	Highly commended poster presentation

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