



# Research Activity Report

Illawarra Shoalhaven Local Health District

2020-2021

This Research Activity Report is a summary of the research that was conducted across the Illawarra Shoalhaven Local Health District (ISLHD) in 2021.

This version is abridged due to the COVID-19-related reprioritisation of activities in our health district, and is a synopsis of the research activities undertaken in 2021.

Please note that this report complies with Section 4.3.5 - Reporting on research activities found in Guideline [GL2011\_01]: Research Governance in NSW Public Health Organisations which stipulates that:

1. Public Health Organisations are responsible for being aware of all research taking place within their premises, and reporting these activities to the public on an annual basis through their annual report or research reports.
2. To enable this, Public Health Organisations must require that all authorised research projects that are conducted at sites under their control provide progress reports at least annually and on completion.

This publication is proudly sponsored by the Staff Specialists of ISLHD and we thank them for their ongoing support.

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## 2020 ISLHD RESEARCH AT A GLANCE



In 2021, ISLHD Clinicians collaborated with researchers at 260 locations in 44 countries around the world.



193 Peer Reviewed Publications



436 ISLHD Staff involved in Research:

- 264 with Publications
- 272 with new Projects



63 Conference Presentations



155 Site Specific Approvals:

- 34 ISLHD LNR
- 12 Access Requests



33 Education Sessions for >180 attendees



31 new Clinical Trials

# FOREWORD

**MARGOT MAINS**

CHIEF EXECUTIVE, ISLHD

I am very proud to be providing my eighth foreword for the ISLHD Annual Research Activity Report. We continue to steadily increase our research activity throughout the district despite another year of uncertainty due to the COVID pandemic. It has been very pleasing to see progress and the level of commitment and energy staff have in pursuing their research. In 2021, under the leadership of the Executive Director of Research, Associate Professor Bruce Ashford we have achieved some notable milestones including 193 peer-reviewed publications, 436 ISLHD staff involved in research, 63 conference presentations and 31 new clinical trials.

In this edition of the 2021 Research Activity Report we have included annual reports from both research partners CHRISP and IHMRI as well as a number of internal reports including the ISLHD Nursing Research Unit (led by Professor Val Wilson), ISLHD Clinical Trials Unit (led by Director Dr Lorraine Chantrill) and the Director of Emergency and Critical Care Professor Kate Curtis.

We have some unique opportunities to strengthen our Clinical Trials activity with the roll out of the NSW Rural, Regional and Remote Clinical Trial Program and I look forward to seeing the continued growth across our area in clinical trials.



# FOREWORD

**ASSOCIATE PROFESSOR BRUCE ASHFORD**  
ISLHD EXECUTIVE DIRECTOR OF RESEARCH

In continuing a tiresome theme, 2021 saw a disrupted year for clinical researchers within ISLHD. Our University colleagues were at home, our research operations staff mostly working remotely, the Hospitals closed to visitors and with clinicians time consumed by the demands of our second year of the pandemic. So it would have been entirely reasonable for us to forget about research during 2021, and just look after ourselves, our families and our patients. But of course that didn't happen.

As can be seen in this report, researchers within ISLHD had an outrageously productive year in 2021. Large grants were applied for and won, substantial projects commenced and in many cases completed and published. A substantial restructure of our research operations, governance framework and clinical trials support was completed. Clinicians continued in research higher degrees. Collaboration with external partners, including both IHMRI and UOW as well those more distant, continued and in many cases flourished. We had immense and unwavering support from the LHD executive, particularly from the CE and EDMS as well as the Board.

The last group we need to acknowledge are our patients. These people agree to have us study them or their care, and are the motivation for our effort. We always seek to honour their commitment to us, and to make their lives just a little better, by being better and smarter.

I would love to think 2022 will be a more productive year, but that will be a challenge. Our progress is being hampered by the effort required to respond to COVID, and this is likely to continue so for some time yet. Thanks to all those people who push on despite the obstacles.



# FOREWORD

**CLINICAL ASSOCIATE PROFESSOR MARIANNA MILOSAVLJEVIC**  
ISLHD DIRECTOR OF RESEARCH OPERATIONS

## Growing Research in ISLHD

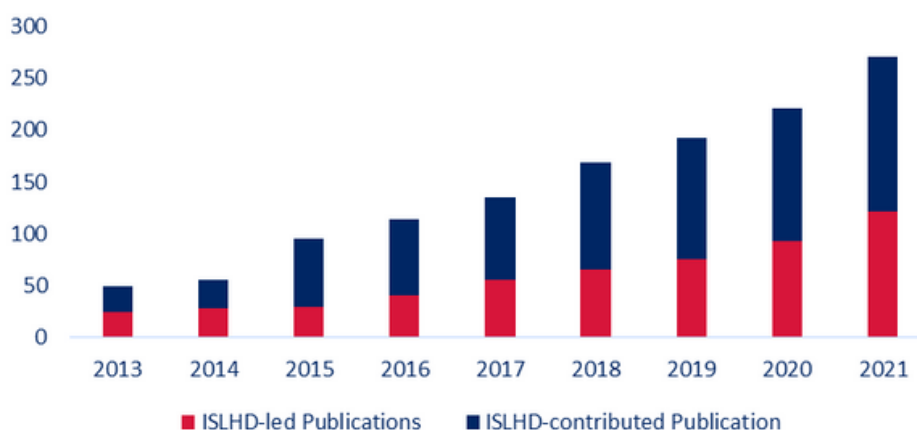
As the ISLHD Director of Research Operations I am very pleased to share with you the 2021 Research Report. Despite the continued disruptions due to COVID, our district has still managed to achieve high levels of research activity. We undertook a major research services restructure that was finalised in August 2021. This resulted in the consolidation of all research support staff into the one unit called Research Central. This now means there is a single point of contact for any research enquiries. This has streamlined many internal processes and has resulted in a far more efficient and streamlined service in all aspects of research support. We are able to review and approve low and negligible risk research projects within, on average, 10 working days. In addition we are now one of the top performing districts in NSW in terms of site specific assessment turnaround times.



In 2021, notable research metrics include: 193 peer reviewed publications, 63 conference proceedings, 33 education sessions, 31 new Clinical trials and 436 ISLHD staff involved in a research activity. The steady growth in research activity and outputs does, to a large extent, reflect the Chief Executive's investment in the "on-the-ground" research support for clinicians. In 2013 ISLHD invested in a small team (five staff) of specialised research trained staff who were given the role of helping clinicians do research and this unit was called "Research Central".

Since 2013 we have seen significant growth in research in three major metrics of research which are: total output as measured by publications, total number of ISLHD staff actively participating in a research project and, most importantly, the total number of ISLHD staff leading the research. I believe with the continued investment in an ISLHD hands-on research support team the research culture will continue to thrive. I hope you enjoy the 2021 Research Activity Report.

ISLHD Research Output  
2013-2021



## RESEARCH OUTPUT IN 2021

## NEW PROJECTS, PUBLICATIONS, CONFERENCES AND GRANTS

Clinical Stream	New Projects	Publications	Conferences	Grants
<b>Aged Care, Rehabilitation &amp; Palliative Care</b>	<b>4</b>	<b>8</b>	<b>-</b>	<b>2</b>
Aged Care	2	3	-	1
Palliative Care	-	3	-	-
Rehabilitation	1	2	-	1
<b>Allied Health</b>	<b>12</b>	<b>10</b>	<b>-</b>	<b>5</b>
Dietetics	4	5	-	1
Pharmacy	2	-	-	1
Physiotherapy	2	3	-	-
Social Work	3	2	-	3
<b>Ambulatory &amp; Primary Health Care</b>	<b>8</b>	<b>6</b>	<b>1</b>	<b>3</b>
Health Promotion	7	3	-	-
Sexual Health	-	2	1	1
<b>Cancer Care</b>	<b>20</b>	<b>33</b>	<b>24</b>	<b>5</b>
<b>Critical Care</b>	<b>16</b>	<b>28</b>	<b>5</b>	<b>6</b>
<b>Drug &amp; Alcohol</b>	<b>5</b>	<b>5</b>	<b>16</b>	<b>6</b>
<b>Health Management &amp; Non-Clinical</b>	<b>1</b>	<b>6</b>	<b>-</b>	<b>-</b>
<b>Kids &amp; Families</b>	<b>6</b>	<b>2</b>	<b>-</b>	<b>1</b>
<b>Maternity &amp; Women's Health</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Medicine</b>	<b>22</b>	<b>30</b>	<b>15</b>	<b>1</b>
Cardiology	6	9	3	1
Diabetes & Endocrinology	3	5	-	-
Gastroenterology	3	3	-	-
General Medicine	-	2	-	-
Infectious Diseases	4	4	-	-
Renal Medicine	3	6	10	-
Respiratory Medicine	1	-	1	-
Rheumatology	1	1	-	-
<b>Mental Health</b>	<b>5</b>	<b>10</b>	<b>6</b>	<b>4</b>
<b>Nursing &amp; Midwifery</b>	<b>2</b>	<b>11</b>	<b>6</b>	<b>3</b>
<b>Public Health</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>
<b>Surgery</b>	<b>22</b>	<b>39</b>	<b>10</b>	<b>2</b>
Anaesthetics	5	4	-	-
Colorectal	-	8	-	-
General Surgery	10	12	6	2
Neurosurgery	1	2	-	-
Orthopaedic Surgery	2	1	-	-
Otolaryngology	3	8	4	-
Vascular Surgery	1	1	-	-
<b>GRAND TOTAL</b>	<b>128</b>	<b>193</b>	<b>76</b>	<b>38</b>

# RESEARCH CENTRAL

## WOLLONGONG HOSPITAL, BLOCK C, LEVEL 8

Research Central fosters the development of research skills through educational workshops, mentoring programs and resource allocation.

We provide individual project support including:

- Assistance with developing research questions or hypotheses
- Study design and planning
- Guidance with statistical analysis
- Review and feedback for manuscripts
- Assistance with dissemination through appropriate channels, and available resources

Research Central Staff are also able to guide and support researchers through ethics and governance processes. We propagate research achievements of clinicians through appropriate channels, as well as link clinicians to researchers with specific expertise or facilitate collaborations with other entities for greater research impact.

Research Central fosters research acculturation through establishment of relational events, and preparation of research specific, ISLHD-specific publications, in addition to advocacy, promotion and support for all levels of research for all ISLHD staff.

### Our vision

Building a self-improving health system

### Our Mission

Help ISLHD clinicians do research

#### ISLHD EXECUTIVE DIRECTOR OF RESEARCH

Associate Professor Bruce Ashford

#### DIRECTOR OF RESEARCH OPERATIONS

Clinical Associate Professor Marianna Milosaveljevic

#### ADMINISTRATIVE SUPPORT

Mitch May & Sharon Pearson

#### RESEARCH CLINICIANS

Lina Baytieh  
Dr Jose Cuenca  
Dr Kimberley Davis  
Madeline Eyles  
Janaye Fish  
Dr Lyndel Hewitt  
Bevan Nicholas  
Dante Risi



# RESEARCH GOVERNANCE

## WOLLONGONG HOSPITAL, BLOCK C, LEVEL 8

The Research Governance team advises and liaises with investigators, sponsors and other stakeholders regarding the preparation and approval of site specific authorisations and ethics processes.

The team fosters effective communication with universities and research institutes, particularly in the promotion and management of collaborative research programmes and grants management.

The Research Governance team manages and assists with:

- Site-specific research governance review and authorisation in accordance with the NSW Health Policies and Guidelines, including associated contracts and support documentation
- Intellectual property arising from health and medical research that involves staff or resources from ISLHD
- Honorary Research Associate appointments for non-ISLHD research collaborators as well as IHMRI researcher affiliations
- Requests from third parties for access to patient data and transfer of human tissue

### ISLHD EXECUTIVE DIRECTOR OF RESEARCH

Associate Professor Bruce Ashford

### RESEARCH GOVERNANCE OFFICERS

Dr Kimberley Davis

Nicole Mensforth

Kristy Pierce

### ADMINISTRATIVE SUPPORT

Leigh Lees

Sharon Pearson



# ISLHD RESEARCH COMMITTEE

## BACKGROUND TO THE ISLHD RESEARCH COMMITTEE

The ISLHD Research Committee was established in October 2019, led by its Chair Associate Professor of Surgery Bruce Ashford. A/Prof Ashford has a clear philosophy - 'make it easier for clinicians to do research'. He believes this can be achieved by ensuring that the district's driving philosophy is to facilitate research. The committee members share this vision, and as the majority are active clinicians who also do research they too are keen to see research grow across the district.

This vision and approach has already managed to achieve some notable wins in a very short time frame. This has included:

- Embedding of the Low and Negligible Risk (LNR) Review Committee within ISLHD. This committee enables ISLHD staff with low or negligible risk research projects within the district to receive ethical and governance review in a timely manner, with the average decision turnaround currently at 5 working days.
- Establishing a series of ISLHD Grant schemes. In 2021, this was a total of \$142,000 in grants which are each supporting nine research projects that will benefit the Illawarra and Shoalhaven community.

## ISLHD RESEARCH COMMITTEE MEMBERS

### Associate Professor Bruce Ashford - Chair

A/Prof Ashford is a general surgeon with over 30 years of experience, and was commenced as the Associate Professor of Surgery in November 2018. He was appointed as the Chair of the ISLHD Research Committee in October 2019, and ISLHD Director of Research in January 2020. He is very keen to see the district establish processes that make it easier for clinicians to do research. His first two initiatives include the Early Career Grants Scheme and the establishment of a local LNR committee.



### Associate Professor Daniel Brungs

A/Prof Brungs works as a medical oncologist at Wollongong Hospital, and has completed a PhD in translation research. He is keen for the district to develop stronger links between the hospital and the university, and to increase capacity for translational research within the Illawarra. He hopes that by being part of this committee he can help influence the direction and support the creation of a stronger and more vibrant research culture.



### Dr Ben Buckley

Dr Ben Buckley is the Research Development Coordinator at IHMRI, joining the ISLHD Research Committee in 2020 to assist with the facilitation of links between the two organisations. Dr Buckley's role provides assistance for ISLHD Researchers to collaborate with IHMRI-affiliated researchers, including review and development of research grants, as well as linking parties together who have mutually beneficial research goals.



### Dr Lorraine Chantrill

Dr Chantrill is a Medical Oncologist and considers herself a clinician-researcher. She has a PhD in Pancreas Cancer Genomics, and is an ongoing and active participant in research. She believes that the creation of evidence should be embedded in our clinical practice, driving the very best outcomes for our patients and for our community as a whole. Dr Chantrill would like to see the clinical trials portfolio of ISLHD expanded into diverse clinical areas across the entire district including rural patients. The Research Committee will enable her vision through support at all levels of our service.





## 2021 ISLHD RESEARCH ACTIVITY REPORT

### Dr Steven Craig

Dr Craig is a surgical oncologist and translational researcher with a specific interest in the development of prognostic biomarkers and assays that can tailor cancer treatments, and has been involved with research within ISLHD since his early days as an intern at Wollongong Hospital. He hopes that participating in this committee will help to foster a strong research culture within our junior health professionals, and make research more accessible to our busy clinicians. Being based in the Shoalhaven, Dr Craig also wants to improve access to clinical trials for Shoalhaven-based cancer patients.



### Professor Kate Curtis

Professor Curtis is Director of Critical Care Research ISLHD, Clinical Director of CHRISP, RN at Wollongong ED and Professor of Emergency and Trauma Nursing at the University of Sydney. Her translational research program focuses on improving the way we deliver care to patients and their families, and has attracted more than \$8 million funding. She is the world's most published author in the field of Trauma and Emergency nursing, and has mentored more than 50 clinicians in research projects.



### Dr Sue Fitzpatrick

Dr Fitzpatrick is the ISLHD Executive Director Allied Health, Disability Inclusion and NDIS lead. She has a professional background as a speech pathologist, and was awarded a Doctor of Health Science in 2016 for her examination of clinical supervision in allied health. Dr Fitzpatrick believes that Allied Health are in a unique position to increase their practice driven research – initiated from and embedded within a practice community. This takes research questions from health professionals to address issues relevant to the clinical setting.



### Dr Susan Furber

Dr Furber is the Research and Evaluation Coordinator with the ISLHD Health Promotion Service. Her research interests are in population health and have included studies on lifestyle interventions to promote healthy weight and physical activity in people with cardiac disease, health impact assessments on local government urban plans in relation to physical activity, nutrition and social cohesion, falls prevention, and the role of soup kitchens in disadvantaged areas.



### Dr Lyndel Hewitt

Dr Hewitt is a Research Clinician for the Division of Surgery, and was awarded a PhD from the University of Wollongong. She is passionate about facilitating research within ISLHD and assisting researchers to complete their projects to publication, as well as translation within the health system. She hopes that by being part of the research committee she can assist to develop a pathway for emerging and existing clinical researchers to enhance high quality research productivity within ISLHD.



### Dr Peter Jansen

Dr Jansen joined ISLHD as Executive Director of Medical Services & Clinical Governance in March 2020. He was previously Principal Clinical Advisor for the New Zealand Accident Compensation Corporation, focussing on treatment injury claims and prevention of injuries caused by medical treatment. He has also worked in pharmaceutical medicine, indigenous health research, medical education and health management. Dr Jansen hopes to maintain and strengthen the linkages between the LHD and other stakeholders in the research community.



### Professor Stuart MacKay

Prof MacKay completed his medical degree at the University of NSW in 1998, graduating with honours. His Fellowship in Otolaryngology and Head and Neck Surgery was completed in 2006, and in 2007 he completed a Fellowship in Airway Reconstruction Surgery for Snoring and Obstructive Sleep Apnoea which also involved further training in Head and Neck and Laryngology (Voice). He is the Vice President of International Surgical Sleep Society, on the clinical committee of the Australasian Sleep Association, and a reviewer for journals Sleep and Breathing, and Laryngoscope.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

### Margot Mains

Ms Mains commenced as the Chief Executive of the Illawarra Shoalhaven Local Health District in October 2014. She has extensive health executive leadership and management experience at both hospital and Local Health Network level. Ms Mains' previous roles include Chief Executive Officer, Northern Adelaide Local Health Network, and prior to that she held senior leadership roles in the New Zealand Health system, as Chief Executive Officer, Capital and Coast District Health Board and Chief Executive Officer, Mid Central Health.



### Clinical Associate Professor Marianna Milosavljevic

A/Prof Milosavljevic is the Director of Research Operations, and her job is to help clinicians do research. Marianna has 30 years experience as a clinical dietitian, and completed her PhD in 2013. Since then she has been working in research and her role on the committee is to implement the initiatives developed by this committee. She has seen many positive changes since she commenced working in research support, and believes that having a committee comprised of staff who are frontline clinicians will help make a real difference to the way research is supported throughout the district.



### Dr Manash Saha

Dr Saha is a clinician scientist. Following specialisation in General and Renal Medicine, he moved from Bangladesh to Australia, where he obtained his PhD at Macquarie University and also FRACP. His PhD identified a new underlying mechanism of hypertension in Chronic Kidney Disease (CKD), and was awarded the Deputy Vice-Chancellor (Research) Commendation award. Dr Saha's main research areas of interest are cardiovascular diseases in CKD, community based modelling for prevention of chronic disease and weight disorders, as well as the use of artificial intelligence in risk assessment of different diseases.



### Clinical Associate Professor Natalie Smith

A/Prof Smith trained in anaesthesia in the UK, but returned to her native Australia over 15 years ago. Along with a diverse clinical practice, she has pursued interests in education, training, and clinical research. Improving the perioperative management of patients, especially in high risk groups such as the frail elderly and people with obesity, is her main ongoing clinical and research priority.



### Dr Stuart Tan

Dr Tan is a specialist physician in trauma and rehabilitation medicine, with a special interest in interventional pain management. He has many years' experience in design, implementation and translational of research projects in a wide range of area with in NSW Health. As there is a scarcity of research in some clinical departments, Dr Tan would like to see increased research activities in ISLHD. Dr Tan is currently undertaking a large, longitudinal research project investigating the effects of long-COVID.



### Dr Kia Wallwork

Dr Wallwork's role is in leading a team of healthcare redesign and project management specialist for ISLHD. She commenced her research career in the physical sciences, and played a leading role in building the Powder Diffraction Beamline at the Australian Synchrotron in Melbourne. She is delighted to be part of the Research Committee at ISLHD, providing strategic vision, and supporting the research of clinicians and non-clinicians alike.



### Professor Val Wilson

Prof Wilson holds a joint appointment between ISLHD and the School of Nursing at UOW as the Professor of Nursing Research. Her research focus is on person-centred research and transforming the care context to improve outcomes for patients, their families, staff and the organisation. A key aspect of this is in research capacity building for staff to enable them to undertake clinically relevant research through either formal (HDR) or informal pathways. Prof Wilson currently has 13 HDR students, the vast majority of whom are ISLHD staff. She is keen to bring her expertise in building research capacity over the last twenty years within a healthcare setting to the committee. She also brings her twenty five years' experience of working in joint positions across healthcare and the academic setting.



# CLINICAL TRIALS

## DR LORRAINE CHANTRILL - CLINICAL TRIALS DIRECTOR

ISLHD Clinical Trials activity grows to new heights with over 135 trials active in our LHD!

This is fantastic news, not only for our LHD but also for all of our patients and community members, who directly benefit from the investment made in clinical trials. Well done to all of those involved in this process from our Data Managers, Research Officers, Research Governance team, Trial Coordinators (nurses) and Investigators. 2021 was a challenge for us all, but we have achieved incredible things.

### Infectious Diseases

The team have worked tirelessly during the COVID-19 pandemic supporting our LHD and our patients. Whilst doing so they also conducted the ASCOT – ADAPT trial, which is contributing to global efforts to better understand the COVID-19 virus. For more information, visit <https://www.ascot-trial.edu.au/>

### ICU

We are all acutely aware of the enormous efforts of our ICU team during the pandemic. And whilst the REMAP-CAP trial wasn't designed specifically for COVID, rather Community Acquired Pneumonia, it was quickly adapted to support COVID-19 patients and is contributing to the international knowledge on this global trial. <https://www.remapcap.org/>

### Haematology

Our haematology clinical trials team treated the first ever patient in Australia with the bi-specific antibody, Talquetamab. The MonumentAL trial is a huge step forward for our Multiple Myeloma patients and for our treatment of this complex disease. <https://clinicaltrials.gov/ct2/show/NCT04634552>

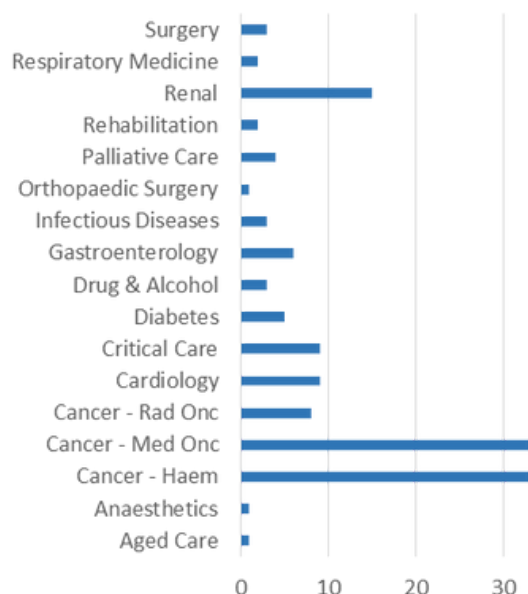
### Drug & Alcohol Service

Our D&A Team have participated in two medical device trials in 2021. One, the ETHOS Engage study is enhancing care of patients with Hepatitis C virus in drug treatment clinics and needle and syringe programs. <https://clinicaltrials.gov/ct2/show/NCT03685045>

### In Other News...

NSW Health through the Office of Health and Medical Research are working on a number of statewide initiatives to embed clinical trials into routine care. The background work for this occurred in 2021 and includes :

- **Clinical Trial Management System (CTMS)** – a new piece of software that will support clinical trials operations at the LHD. ISLHD is a pilot site for the statewide rollout, expected to commence May 2022.
- **Regional, Rural, Remote (RRR) Program Grant** – ISLHD is partnering with Murrumbidgee LHD, Southern NSW LHD and Canberra Health Services on a Program Grant that will enable our regional, rural and remote communities better access to clinical trials.
- Watch out for Grand Rounds – you'll continue to see our trials teams presenting. Did you see the ASCEND Trial presentation by our Renal team?



If you have any questions regarding a Clinical Trial, please get in touch with the team:

[ISLHD-ClinicalTrials@health.nsw.gov.au](mailto:ISLHD-ClinicalTrials@health.nsw.gov.au)



# CRITICAL CARE RESEARCH

PROFESSOR KATE CURTIS - DIRECTOR OF CRITICAL CARE RESEARCH



Throughout the challenges of 2021, the Emergency and Critical Care clinicians remained research active through publications, research translation, multi-centre randomised control trials and evaluations of innovations specific to delivering care in COVID. We have generated \$3.5million in research funding, including NHMRC and MRFF grants, 16 publications and upscaling of our research findings across NSW.

Highlights include an ongoing collaboration between Ambulance NSW, ED, Anaesthetics, ICU and Cardiology to participate in the EVIDENCE randomised controlled trial (simulation pictured above) of Out of Hospital Cardiac Arrest patients treated with two existing transfer options: expedited transfer versus non-expedited transfer from scene to hospital. The Wollongong ED and the Acute Pain Service participated in the SABRE trial Serratus anterior plane block in addition to protocolised care bundles for patients with rib fractures in the Emergency Department (Dr Hughes Makoni, pictured below).

To increase staff and patient safety during the second COVID wave, with the support of an ISLHD multidisciplinary team, we applied translational research principles to identify major personal protective equipment (PPE) use risks and barriers. Up to 68 major risks and barriers to safe and appropriate PPE use within ISLHD medical sites were identified in 24 hours. We then rapidly developed and implemented a behaviour change strategy to improve COVID-19 personal protective equipment which resulted in a national publication and more importantly no transmission of COVID in Wollongong ED.

Our team's efforts were nationally recognised with the Australian Council on Healthcare Standards (ACHS) Quality Improvement Awards 2021: Clinical Excellence and Patient Safety Category for the project *Safer, better emergency nursing care for the Illawarra Shoalhaven LHD with HIRAID: a proven, upscalable emergency nursing framework*. A two-minute video about the HIRAID project can be found at <https://youtu.be/rhzi1zx29O8A>. HIRAID is the first standardised emergency nursing framework in the world and was founded on five years of rigorous and original research, from concept to feasibility and efficacy studies to adaptability and effectiveness investigations by over 500 clinicians, from 19 hospitals and six institutions. This has been a significant achievement that has delivered an empowered and confident emergency nursing workforce and better patient care outcomes within safer hospital EDs. When emergency nurses use HIRAID patient care is better: (a) patients deteriorate less (b) treatment delays are reduced, (c) clinical handover and documentation improves and (d) there is exceptional return on investment through reduced costs associated with patient deterioration episodes (\$1.9+ million for one health service with a payback period of 75 days).



## 2021 ISLHD RESEARCH ACTIVITY REPORT

# NURSING & MIDWIFERY RESEARCH UNIT

## PROFESSOR VALERIE WILSON

Despite the Nursing & Midwifery Research Unit supporting other departments during the COVID-19 response we still managed to have some great outcomes in 2021. This included 7 journal articles and 1 book published.

To build research capacity in staff we began a research mentorship program, open to nursing and allied health staff across ISLHD. This program consists of four modules:

1. Finding your research question
2. Research design
3. How to proceed with ethics and research proposals
4. Supporting people to publish

There are 18 participants enrolled. Alongside this, we have been holding monthly Action Learning Sets with Clinical Nurse Consultants and Heads of Departments (Allied Health) on building research capacity within their teams. There are a number of initiatives resulting from this, with the group currently undertaking a literature review on the enablers and barriers to multidisciplinary research. They have also engaged the library to set up journal clubs in 2022.



Alera Bowden's PhD Ageing simulation suit

## NURSING AND MIDWIFERY PHD STUDENTS

- Vanathy David (CNC Aged Care) - *Falls prevention- Action Research study* (data analysis stage)
- Alera Bowden (CNC- Post Op Delirium Project) - *In My Shoes: an age simulation educational initiative* (completion of PhD 2022)
- Leanne Cummins (Shared-Care Coordinator Maternity Services) - *Breast feeding in Gestational Diabetes* (final phase of Action Research)
- Denise Edgar (Nurse Manger Nursing and Midwifery Research) - *CAREing for our new Graduates; A person-centred approach to clinical supervision during COVID-19* (data analysis phase)
- Miriam Coyle (Acute Dementia/Delirium CNC Bulli) - *Specialling in older people* (data analysis phase)
- Emma Radbron (iMPAKT project manager) - *Implementing and Measuring Person-centredness using an APP for Knowledge Transfer* (completion of PhD 2022)
- Julia Kittscha (CNC Stomal Therapist) - *Adjustment to a Stoma* (final phase of Action Research)
- Erinn Dawes (Physiotherapist) - *Cognitive screening for amputation* (data collection phase)
- Linda Deys (CMC Lactation) - *Where's my baby- experience well mothers who are separated from their babies at caesarean section birth* (data collection phase)

## OTHER PROJECTS SUPPORT OR LED BY NURSING AND MIDWIFERY UNIT STAFF

- *iMPAKT - Implementing and Measuring Person-centredness using an APP for Knowledge Transfer* - collaboration with Ulster University, Northern Ireland. Completed in June 2021
- *Strengthening the Safety Culture in Mental Health* - collaboration with Royal North Shore Hospital)
- *Improving current provision of clinical supervision across district and across disciplines* - collaboration between ISLHD Allied Health and Nursing
- *Pain assessment in patients over 65 years who have cognitive impairment* (TWH)
- *Post-operative Delirium Project* - improving the detection, management and prevention of delirium to improve patient outcomes and staff competence. This is a collaborative project between UOW, ISLHD, SESLHD, SLHD, and is funded by a NSW Health Translational Research Grant.



## PUBLICATIONS 2021

There were a total of seven journal articles by Unit staff appearing in 2021, along with a book edited by Professor Wilson and featuring chapters contributed by Alera Bowden, Emma Radbron and Julia Kittscha.

These articles are included in the list at the end of this report. Journal authors include Valerie Wilson, Alera Bowden, Leanne Cummins, Linda Deys, Denise Edgar, and Emma Radbron.

Left: A5 staff using the iMPAKT App



## RESEARCH NEWS & SUCCESSES

### NEWS STORIES FROM ISLHD RESEARCH DURING 2021

#### MAKING IT EASIER FOR CLINICIANS TO DO RESEARCH

When you ask a clinician researcher what is the biggest hurdle they face when trying to do research, apart from the usual: "I don't have time" or "I don't have resources"; the most common challenge is "Ethics and Research Governance". Some examples of the comments you may hear about ethics and governance include: "it is so repetitive", "It seems overly regulated way out of proportion to the actual risk", "I think it does more harm than good", or "It made me lose the will to live".



##### Our own local solution

The good news is ISLHD has led from the front. Under the leadership of Associate Professor Bruce Ashford, ISLHD is the first NSW LHD to establish and successfully run its own non-HREC Low and Negligible Risk Review Committee. The Committee commenced in February 2020 despite the many naysayers who said, "we have tried it many times before and it has failed, so it can't be done". Here we are, 56 LNR project approvals later by the end of 2021, with an average time to approval of only five working days. This not only shows it can be done but now we are leading the pack as our local solution has now been endorsed at a national level.

##### National Solution

The NHMRC peak body that oversees all ethical review committees across Australia has endorsed that any local LNR committee complying with the NHMRC National Statement, will be accepted by the National Mutual Scheme. What this means is in the future our own ISLHD LNR committee should be able to approve low or negligible risk studies that that involve researchers outside ISLHD.

There will still be some more work to do to make this happen but we are on the right path. As we all know a vision without a practical implementation plan is just a wish list. The advantage for our District is we have already established the internal business processes for our internal LNR committee. We now have turned the vision (of our own LNR committee) into a reality.

#### FALLS PREVENTION CONFERENCE PRESENTATION WIN



Congratulations to Amanda Bates from the Health Promotion Service for being awarded the Best Scientific Research Presentation for her presentation *Effect of a home-based exercise program in community-dwelling older people* at the Australian and New Zealand Falls Prevention Conference in early December.

The BEST (Balance Exercise Strength Training) at home research project was set up to determine the effectiveness of a home-based exercise program to prevent falls and upper limb dysfunction in people aged 65 years and over living in the community. It is a collaboration with The University of Sydney and is funded by a National Health and Medical Research Council Partnership Grant. Participants were randomly allocated to either an exercise program to prevent falls or an exercise program designed to reduce shoulder problems. They attended three exercise sessions delivered by physiotherapists and were given exercises to do at home over the course of the 12 month study. A key outcome of the study was a reduction in participants' fear of falling and an improvement in gait speed.

### TRAUMATIC BRAIN INJURY RESEARCH FUNDING SUCCESS

ISLHD's Director of Critical Care Research, Professor Kate Curtis, was the recipient of over \$850,000 worth of funding through the NHMRC Medical Research Future Fund (MRFF), announced in July of 2021. Prof Curtis is collaborating with researchers at Monash University, looking at data on the different types of Traumatic Brain Injury (TBI) and how they are best treated. This work will inform clinicians' treatment of TBI patients in both early and ongoing stages, improving patient outcomes.

Severe brain injury usually requires lifelong care, often changing a patient's personality or impeding their ability to function in everyday situations. It can occur in a range of scenarios, most commonly motor vehicle accidents for young people and falls for older people. Although there are many different treatment options available – including medication – appropriate early treatment is the best way to minimise these longer-term impacts. Prof Curtis' research will use nation-wide data to investigate the types of treatments received by TBI patients, and how these affected their long-term outcomes.



### THE SKELLERN FAMILY FOUNDATION AWARD - BAYLIE TROSTIAN



Congratulations to Baylie Trostian for being awarded the Skellern Family Foundation Scholarship. The Skellern Family Foundation established this scholarship in 2012 to provide financial assistance a nurse or midwife undertaking their PhD and conducting research within the Faculty of Medicine and Health, University of Sydney.

Baylie is a registered nurse and midwife who works within the Wollongong Hospital emergency department, and occasionally for Wollongong maternity services. Her PhD topic combines these areas of expertise, emergency nursing and midwifery. Baylie is researching the experiences and outcomes of women who have bleeding in early pregnancy (gestation less than 20 weeks) and present to the emergency department. Women and their families with a threatened pregnancy continue to report negative and often traumatic experiences of the emergency department. Healthcare workers in the emergency department report feeling disempowered and underskilled when caring for women with early pregnancy complications. Identifying specific issues within emergency departments for women, families and healthcare providers will not just provide them with a voice for change but may also contribute to improved pathways of care.

The Skellern Family Foundation Scholarship means that the timeline for this PhD project can be accelerated, providing earlier access to the body of knowledge that has the potential to empower emergency clinicians, inform policy and change care pathways. The project may transform the experiences of women and their families when presenting to the emergency department during the challenging time of a threatened pregnancy.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

### LONG COVID AN IMPORTANT NEW RESEARCH PRIORITY - FOR ALL OF US.

It has been hard to escape hearing about COVID on a daily basis for some time now – from that alert on our phone of the latest case numbers statistics, the ritual of “Gladys’ 11am Presser” and hearing Dr Chant’s grim daily updates, and of course the ever-present issue of so easily being a COVID contact just going about our everyday lives. However, most of this focuses on the short term impacts of the virus, such as how long you have to isolate if you are a case or a contact, what to do if you contract COVID, and understanding the severity of the latest virus variant as it impacts on hospitalisation, ICU and death rates. What is often not discussed – at least widely in the popular media – are the ongoing effects of COVID and its impact on patients’ lives, long after the virus has left their system. For many people, a variety of symptoms can linger for weeks or even months, and in some instances can continue to have a debilitating impact on their lives.

When the SARS-COV-2 virus first emerged from Wuhan, China, very little was known about it, including how to treat it and manage the spread, and of course there was no way of knowing how the disease would progress or affect patients after they had recovered. Since then, scientists have successfully developed both vaccines and treatments, however there is still little known about the long-term symptoms and impacts of COVID. Furthermore, similar to how COVID symptoms in active cases can be highly variable, the symptoms observed long after patients have recovered from COVID are also highly varied.

In order to help with our understanding of the virus, Dr Stuart Tan (ISLHD Trauma and Rehabilitation Staff Specialist, pictured) has since early 2020 been conducting a study on these long-COVID impacts, and the first set of findings was published in 2021 in the Australian Journal of General Practice. So far, a lot of the published literature on the so-called ‘Long COVID’ has focused on hospitalised patients, however Dr Tan’s study is inclusive of all patients who have contracted COVID, whether hospitalised or not. Furthermore, the study is aiming to gain a complete picture of both the physical as well as mental health of patients, many months after their infection has passed.

Worryingly, the initial findings by Dr Tan and his team (including Research Central’s Dr Lyndel Hewitt, Dr Jose Cuenca, Dante Risi and Olivia Fischer), demonstrate that nearly three quarters of participants experienced some type of ongoing symptoms long after their COVID diagnosis, with nearly half experiencing difficulties in completing their pre-COVID activities. At the six month mark, over 40% of respondents reported ongoing symptoms, lower quality of life and higher levels of anxiety, depression and stress.



Further outcomes from the study are expected over the coming months and years, as the researchers continue to follow up patients after their COVID diagnosis. Importantly, the study aims to understand the health needs of this patient cohort and how they can be catered for, as well as addressing any differences in long-term outcomes relative to the different strains of the virus.

### QUALITY AND INNOVATION FORUM WINNERS 2021

In 2021 the district saw Joint-Winners for the Chief Executive and Overall Winners Award:

- *Safer, Better Emergency Nursing Care for ISLHD- HIRAID* - Prof. Kate Curtis and the HIRAID research team
- *SEED* - Stuart Emslie, Anne Poulton, Padmini Pai and Ruth Everingham

Peer-reviewed publications on these projects appearing in 2021 are listed below:

Mackay MT, Pai P, Emslie S, Knezevic A, Mackay J (2021). *SEED program: The development of a program that has enabled the learning and growth of staff in the response to a community crisis*, Health Education in Practice: Journal of Research for Professional Learning, 4(1), 67-73

Curtis K, Munroe B, Fry M, Considine J, Tuala E, Watts M, Alkhouri H, Elphick T, Ruperto K, Barrass J, Balzer S, Chisholm B, Van C, Shaban RZ (2021). *The implementation of an emergency nursing framework (HIRAID) reduces patient deterioration: A multi-centre quasi-experimental study*, International Emergency Nursing, 56:100976.



### INFLUENCE OF COVID-19 ON CARDIAC SEQUELAE & ASSOCIATED FACTORS

#### Contextualising SARS-CoV-2 and COVID-19

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the virus that causes the disease known as COVID-19. COVID-19 was declared a pandemic by The World Health Organisation in March 2020. By the end of January 2021, SARS-CoV-2 had infected over 100 million people worldwide and claimed over 2 million victims globally.

In the initial onslaught, the medical world could only observe and conjecture through observation. Factors that have been since shown to be highly correlated with severe COVID-19, and death, were gleaned through noting characteristics of patients presenting to hospital with COVID-19 disease, and making links with morbidity and mortality. Two of these factors were advanced age and chronic illnesses that result in underlying inflammation.

Three factors that have however presented conflicting evidence to date as to their independent connection to mortality include hypertension, angiotensin-converting enzyme (ACE) inhibitor and angiotensin receptor blocker (ARB) treatment. Dr Astin Lee, Head of Cardiac Services at ISLHD (pictured), co-authored 2 publications in 2021 addressing the above-mentioned questions posed and observed at the beginning of the SAR-CoV-2 outbreak.



#### Cardiac Complications in Patients Hospitalised With COVID-19 in Australia

The aim of this study was to provide an objective picture of the incidence of clinical cardiac complications in hospitalised patients who were infected with SARS-CoV-2 within a health care system (Australian) that had not been overcome with the heavy demand of COVID patients compared to many other countries. The key findings are outlined below:

- Overall, 33.6% of patients had a troponin level above the upper reference range.
- Of those who died, approx. 32% had a raised troponin compared with 6% in those who survived.
- Of patients who were 65 years or older, 6.4% were diagnosed with new onset atrial fibrillation or flutter, compared with the 1% who were below the age of 65.
- In the 65 years or above group, 50.3% had a raised troponin that peaked above the upper reference range, compared with the under 65 group, of which 16.4% had high troponin levels.
- Clinical cardiac sequelae, such as high grade atrioventricular (AV) block, pericarditis or myopericarditis, new heart failure or cardiomyopathy were uncommon.

It was interesting to note that these incidences are not dissimilar to incidence rates of cardiac complications associated with influenza. This paper reviews the incidence of cardiac complications in patients with COVID-19 and influenza infections and purports that they are comparable; the discrepancy in troponin, the authors note, could be due to the variations in testing criteria for troponin.

#### Association of hypertension with mortality in patients hospitalised with COVID-19

This multicentre study involving 21 Australian hospitals analysed data taken from the Australian Cardiovascular COVID-19 (AUS-COVID) Registry, the most expansive multicentre registry of Australian hospitalised patients. The study had 2 main aims, which were to test if hypertension is independently positively correlated with mortality from COVID-19, and also to test the effect of ACE inhibitor and ARB treatment on mortality in patients with a history of hypertension admitted to hospital with COVID-19. The key findings of this study were as follows:

- Hypertension was not independently associated with mortality
- Treatment with ARBs and/or ACE inhibitors was not independently associated with mortality
- Factors however that usually have hypertension as a comorbidity including advanced age, heart failure or cardiomyopathy, chronic renal failure, chronic obstructive pulmonary disease were found to be associated with increased risk of mortality.

#### SARS-CoV-2 Features and Mutations

SARS-CoV-2 has certain features that predispose to a sequelae of pathophysiological changes to cells and tissues, and to organs. The body's exaggerated inflammatory response, predominantly through cytokines (and other inflammatory substances), is at the heart of this damage. The different variants have their own shifts and twists on the generic structure of SARS-CoV-2, and therefore may be able to modify effects of viral infection and the nature of the COVID-19 disease.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

### IHMRI'S 2021 INTERNAL GRANT RECIPIENTS ANNOUNCED

Fifteen affiliated researchers from the Illawarra Health and Medical Research Institute (IHMRI) have received a share in \$150,000 to investigate projects across a range of health areas, with six projects funded through the 2021 IHMRI Clinical Translation Grants equating to \$120,000. Clinical Translation Grants aim to encourage collaboration, awarded to projects co-led by academics and health professionals

Congratulations to Illawarra Shoalhaven LHD grant recipients for 2021:

- **Prof Martin Carolan:** *Pre-clinical assessment of FOLFIRI +/- radiation as potential new treatment regime for patients with glioblastoma multiforme in 2D and 3D models*
- **Beenu Bastian:** *Exploring the effectiveness of insulin therapy in preventing maternal and neonatal adverse outcomes in women with Gestational Diabetes Mellitus (GDM)*
- **A/Prof Daniel Brungs and Dr Senthilkumar Gandhidasan:** *Early palliative care intervention in metastatic lung cancer patients of the Illawarra using patient reported measures*
- **Dr Steven Craig and Dr Bruce Ashford:** *Surgical pathway discovery: appendectomy as an archetype*
- **Lilliana Barone:** *A novel approach to understand and improve the nutritional well-being and health of older people with dementia in hospital: The MEALS project*
- **Dr David Alcorn:** *Biomarker and ambulatory real-time monitoring of suicide risk: a feasibility study*

### ISLHD SPEECH PATHOLOGISTS TAKING ON NHMRC FUNDED PROJECT AT THE FOREFRONT OF APHASIA THERAPY



The ISLHD Speech Pathology unit has partnered with researchers from the University of Queensland to take part in an NHMRC funded project at the fore front of aphasia intervention and care research. Head of speech pathology, Ms. Sue-Ellen Hogg, will be leading the ISLHD arm of the project exploring the efficacy of implementation of an 8-week Comprehensive High-Dose Aphasia Therapy (CHAT) program. This program combines individual patient therapy, group therapy, and family education and involvement.

With over 18 years of speech pathology experience, Ms. Hogg is recognised for having successfully implemented a range of service redesign projects across health districts improving the quality of patient rehabilitation and palliative care. The ISLHD Speech Pathology Department is unique among health districts, operating as a district wide single unit with the same team of clinicians involved with each patient throughout the entire rehabilitation process. This has made ISLHD an incredibly appealing site for this type of translational research. Patients with communication difficulties following stroke have access to consistent speech pathology care as both in and outpatients. Efficacy of the implementation of this project will be observed in all aphasia patients throughout individual therapy in the clinic or via telehealth, family/carer training, group therapy, and support for self-directed computer-based therapy.

Despite aphasia occurring in around 30% of all stroke victims, therapeutic dosage, practice, and implementation studies are essentially non-existent. Similarly, no best practice model for aphasia therapy exists that stratifies type, dosage, and frequency of therapy based on the patient's needs.

This research gives our Speech Pathology team the opportunity to translate a tailored evidence-based rehabilitation program into common practice in the hopes of "developing and [embedding] a best practice model of care". As the only participating site in NSW, the translation of this research is the next step in having the ISLHD Speech Pathology team recognised as a premier centre for aphasia intervention within NSW, setting a precedent for continued major aphasia research within our health district. Ms. Hogg emphasised that "We want our service to be known within the district and throughout the state as a service that excels in outcomes for aphasia".



## 2021 ISLHD RESEARCH ACTIVITY REPORT

### EPIC INVITATION FOR TWO OF OUR STAFF

Congratulations to Professor Kate Curtis, Director of Critical Care Research, and Kate Ruperto, Nurse Educator Emergency, who were invited to join an exciting state-wide EPIC initiative.

These ISLHD staff have been invited to join the Steering Committee to oversee the development and implementation of Emergency Protocols Initiating Care (EPIC), a significant premier's priority project led by the Emergency Care Institute (ECI) of the Agency for Clinical Innovation (ACI).



Instigated by ISLHD Emergency Nurses in January 2018, the ACI began collaborating with emergency nursing experts from across rural and metropolitan NSW. These nursing leaders agreed on a standardised approach to managing common ED presentations and developed an evidenced-based, state-wide nurse-initiated care framework to meet national and NSW Health State-based objectives.

Under the leadership of Professor Kate Curtis, ISLHD is currently piloting the EPIC Implementation Project. The ISLHD project team has worked collaboratively to have the EPICs approved locally, developed an education package currently being delivered to our Advanced Clinical Nurses (ACNs), and worked towards a simultaneous intranet publication and eMR 'go-live' date.

The EPIC guidelines enable nurses to initiate medications and X-rays for 50+ conditions. EPICs will ensure our patients have access to the best available timely, evidenced-based care. EPICs are safe, reliable, improve patient care and emergency department flow. The ISLHD pilot project ensures both Kates will bring a wealth of experience to the state-wide project.

### WOLLONGONG HOSPITAL PAEDIATRIC AND ED STAFF INVOLVED IN RCT EXPLORING INTERVENTIONS FOR INFANTS WITH BRONCHIOLITIS

ISLHD's own Emergency Senior Staff Specialist Simon Binks, Paediatrics CNC Tracey Couttie, Paediatrics CNE Tegan Zanotti, Paediatrician Joanne Morris, Co-Director of Paediatrics Susan Piper and Emergency staff specialist Richard Pryor make up the Wollongong Hospital arm of the PREDICT Network. The Paediatric Research in Emergency Departments International Collaborative (PREDICT) is a network of successful paediatric emergency researchers and platform for multicentre acute care research across Australia and New Zealand.

As part of the PREDICT Network, the Wollongong based team have been involved in the roll out of a randomised controlled trial (RCT) exploring interventions for infants with bronchiolitis. The RCT compared the effectiveness of targeted interventions versus passive disseminations of an evidence-based bronchiolitis treatment guideline for infants. It is hoped that results from the study will reduce use of low-value care, progressing science in the area to promote evidence based practice. The findings for the trial have been published in JAMA Pediatrics.

#### From the research team's perspective...

The team was contacted by the PREDICT Network as Wollongong Hospital had facilities that saw a lot of children with bronchiolitis, which would assist in determining treatment rates. Although the work involved the auditing of many files, the team were able to come together to work through the process effectively. Along the way, the team found various ways within eMR to make the audit easier and more streamlined. Through the process, it was discovered that within ISLHD the treatment of children with bronchiolitis was exceptional, with the vast majority receiving correct care.

*"It was really reassuring to have such results. Which were also backed up by more auditing of children with bronchiolitis when we took part in the Leading Better Value Care programme, which again enforced our great care."* – Tracey Couttie

The team found collaborating on this project a great way to get involved in research; the PREDICT Network were able to assist with all steps involved in the process, including ethics and the data collection system. Plus, it is rewarding to be able to attest that ISLHD is providing a high level of evidence based care to children with bronchiolitis.



### HEALTH CARE INTERPRETERS IMPROVE PATIENT CARE

In New South Wales, mandatory policy requires that all patients who are not fluent in English or are Deaf be provided with access to a health care interpreter. In 2016, 3.5% of the Australian population needed interpreters to facilitate flow of communication from the language of origin to English. They either could not speak English at all, or were unable to speak it well enough to communicate satisfactorily. Although health care interpreting services have broad coverage in Australia, there is enough evidence to suggest that health interpreter service utilisation is discrepant and is in need of optimisation.

An article published in the Health Promotion Journal of Australia in 2021 (*Factors associated with utilisation of health care interpreting services and the impact on length of stay and cost: A retrospective cohort analysis of audit data*) outlines how ISLHD, in collaboration with the University of Wollongong, approached this gap in interpreter service utilisation. The article features ISLHD staff members Lucia Vellar and Fiorina Mastroianni from the Clinical Governance Unit, and Josipa Krizanac from the Health Care Interpreter Service. The authors developed the audit, feedback and improvement cycle in ISLHD to monitor and increase the use of interpreters, in line with NSW Health requirements as set out in the State-wide policy on use of Interpreters (PD2017\_044). The research study analysed the results to observe impacts of interpreter use on length of stay and cost.

ISLHD has sustained efforts over the last 7 years to better identify and understand the impact of professional interpreter service utilisation on improved clinical communication and outcomes. Utilisation rates are monitored and improved using a multi-strategy approach comprising audit, feedback and action plans with clear and measurable targets. This strategy was developed following a 2012 review of clinical incidents and interpreter usage rates in the Emergency Department (ED) at The Wollongong Hospital, which identified non-use of interpreting services as a main contributing factor in three of five incidents investigated, and an overall compliance rate for use of services of 15%. Following the review, an action plan was implemented with strategies to: increase awareness and skills of staff to confidently access and utilise interpreting services; facilitate early identification of the need for an interpreter; improve access to telephone interpreters at triage; and include an “interpreter alert” message in the ED electronic medical record system.

A more recent example where this strategy has been applied is at Shellharbour Hospital. The 2020 audit results showed a compliance rate of 29%. Information was fed back to wards and services and discussed at Quality and Safety, and Partnering with Consumers meetings. A working party was established to further review cause and effect factors, and to develop an action plan, after which a number of strategies were implemented. A re-audit in 2021 showed a significant improvement of interpreter utilisation at 89%.



If you refer to the HCIS card attached to the back of your ISLHD Staff ID card, you'll find the appropriate numbers and codes for interpreter service. ISLHD Health care professionals (HCP) can access the ISLHD Health Care Interpreter Service (HCIS) from 0830 to 1700 hrs. After hours, and where HCIS cannot provide a specific language, the Translating and Interpreting Service (TIS), provides HCPs access to immediate phone interpreter services. The use of professional health care interpreters ensures effective patient-clinician communication in the context of health care delivery for patients with suboptimal English proficiency.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

### THE 5-YEAR COLLABORATIVE EFFORTS OF THE PREVENTION RESEARCH SUPPORT PROGRAM (PRSP)

*A successful partnership between Early Start (University of Wollongong) and ISLHD Health Promotion Service working on child-focused preventative health research*

Over the past five years, the ISLHD Health Promotion Service has successfully collaborated with Early Start at the University of Wollongong, the Centre for Population Health, and a number of other Local Health Districts on a comprehensive program of child-focused preventative health research.

This body of research has been possible after Senior Professor Tony Okely from Early Start was awarded \$1.25 million in funding under the NSW Health Prevention Research Support Program (PRSP). This program of work firmly aligns with the state-level priorities of NSW Health and all partners have been working together to promote health, wellbeing, capacity and resilience during the first 2000 days; supporting children and young people to optimise their health and wellbeing, particularly through supporting healthy eating and physical activity; identifying and tackling health inequities; and building trust through partnerships.



The PRSP funds a Childhood Obesity Research Coordinator, Dr. Jenny Norman, who is based at the ISLHD Health Promotion Service, who, in addition to collaboration on the planning, implementation and evaluation of PRSP shared projects, also provides education and support to health promotion staff to build their capacity to undertake research and evaluation. Dr Norman works closely with Professor Susan Furber, Health Promotion Service Research and Evaluation Manager, and they co-supervise two University of Wollongong PhD Candidates working on PRSP projects. Both these students were formerly NSW Health employees.

Under the PRSP, the Health Promotion Service has collaborated on a number of key projects. To date, findings from the different studies have influenced policy and practice in a number of ways. Research conducted in Family Day Care has guided quality improvement of healthy eating and movement behaviour practices in this sector and has upskilled educators in delivering experiential learning activities for children to encourage healthy eating involving food-related engagement with their parents/carers. The work with primary school children in the Outside of School Hours Care sector, has resulted in several healthy eating and physical activity interventions for staff based on the formative research. Outcomes from the research conducted in high schools in our health district has informed recommendations for schools to support healthier school canteens and our health promotion practice moving forward.

Outcomes from these projects also include a number of publications - two appear in the ISLHD Research Report for 2021, with the remainder currently available online and awaiting final citation assignment:

- *Foods provided to children in family day care: an observational study*, published in the journal Public Health Nutrition. ISLHD authors: J Norman, S Furber
- *Physical activity in out of school hours care: an observational study*, International Journal of Behavioral Nutrition and Physical Activity. ISLHD authors: J Norman, S Furber
- *The barriers and enablers to implementing the NSW Healthy School Canteen Strategy in secondary schools in the Illawarra and Shoalhaven region: A qualitative study*, Health Promotion Journal of Australia. ISLHD authors: R Johnston, J Norman, S Furber, J Parkinson
- *Nutrition, physical activity and screen time policies and practices in family day care in NSW*, published in the journal Public Health Research and Practice. ISLHD authors: J Norman, S Furber, L Franco
- *Assessment of feeding practices and mealtime environments in Australian family day care services: an observational study*, Journal of Nutrition Education and Behavior. ISLHD authors: J Norman, S Furber

The PRSP has firmly cemented a strong working relationship between Early Start, the ISLHD Health Promotion Service and all other NSW Health partners. Other outcomes from these collaborations include two seminars for health promotion officers from across NSW and a number of joint funding applications. We await with anticipation the outcome of the next round of PRSP funding which would see the continuation of this productive research collaboration for a further four years.

### AGEING SIMULATION TO ENHANCE PERSON-CENTRED CARE PRACTICES TOWARDS OLDER PEOPLE

PhD candidate, Alera Bowden (pictured presenting at the recent International Enhancing Practice Conference), has had a long haul with her PhD by publication, but by her accounts it's all been extremely valuable, knowledge-building, worthwhile, and well worth it. The following is her account of her literature review journey and how it informed her study...



Undertaking this literature review was the second manuscript of my doctoral of philosophy studies to explore the use of ageing simulation to enhance person-centred care practices towards older people. Ageing simulation can be seen as “an educational approach which utilises the modality of ageing-suits (basic or complex) in a simulation intervention which incorporates additional physical, conceptual and psychological dimensions to provide participants with first-hand experiences of the motor-sensory deficits associated with advancing age”. Ageing-suits components are designed for the wearer to experience the impact of advancing age including: mobility restrictions (cervical collar, elbow and knee wraps), muscle weakness (weights to torso, wrists, and ankles), reduced dexterity (gloves), vision and hearing impairments (glasses and ear protection). Ageing-suits can be categorised into basic or complex.

‘Basic ageing-suits’ are a single suit component or the use of simple materials, for example petroleum jelly on safety glasses to mimic cataracts. ‘Basic ageing-suits’ are not new, referenced within the literature as early as the 1970s and 1980s with a particular focus on the “Into ageing” game. During the “Into ageing” game, participants experience the ageing process by acquiring different physical, sensory and cognitive changes (basic ageing-suit components) as the participants rotate around different activity stations. Game evaluations revealed it was a useful approach in enabling students to gain insights into ageing and caring for older people. Whereas, ‘complex ageing-suits’ reflect recent technical advances and integrate multiple suit components to give the wearer a ‘full-body’ ageing experience, some models even have electrical components which can simulate tinnitus and hand tremors associated with Parkinson’s disease.

Increased utilisation of both basic and complex ageing-suits in recent decades has seen an increase in ageing simulation research. Interestingly within my literature review these studies were predominantly carried out with undergraduate students with limited research conducted on qualified healthcare professionals within the workforce. Researchers implemented a wide range of ageing simulation interventions with varying quality levels. Participant outcomes also ranged widely with researchers exploring the impact of ageing simulation on ageing knowledge, willingness to care for older people and anxiety towards ageing. As well as positive attitudes and empathy towards older people. This literature review highlighted the current gaps in ageing simulation research including method and intervention quality, participant focus and measured outcomes. The basis of my own PhD study was built on these findings.

My PhD study saw an ageing simulation intervention implemented utilising a ‘complex ageing-suit’ known as the *In My Shoes* program to explore nurses’ empathy towards older people with phase one presented previously [2017 Research Report, pp 129-131]. In phase two the program was expanded to include additional ageing-suits, co-facilitators and larger participant groups, consisting of assistants in nursing, enrolled nurses, registered nurses and some allied health professionals from aged care, renal, neurology and rehabilitation inpatient units. The *In My Shoes* program was expanded from a four-hour to an eight-hour ageing simulation intervention where participants wore the ageing-suit and undertook activities typically faced by older people in hospital, for example mobilising to the toilet, reading a brochure and making a hot drink. When scenarios were completed participants were invited to contribute to a group debriefing discussion to share their experiences. Participation resulted in self-reported improvements in empathy towards older people.

I wish to take this opportunity to acknowledge my superb supervision team, who without their ongoing support and advice my PhD journey would not have been possible: Professor Victoria Traynor, Professor Val Wilson and Dr Rita Chang. A big thank you to all the *In My Shoes* program co-facilitators and participants.



# CENTRE FOR HEALTH RESEARCH ILLAWARRA SHOALHAVEN POPULATION (CHRISP)

Now in its 5th year, the Centre for Health Research Illawarra Shoalhaven Population (CHRISP) is a research-practice partnership between the Illawarra Shoalhaven Local Health District (ISLHD) and UOW (AHSRI/School of Medicine). The main partnership goals are to:

- Provide access to high quality health data for research
- Build capacity for research and development
- Lead and support research – LHD priority driven and investigator/clinician driven
- Translate research findings into policy and practice

### CHRISP HIGHLIGHTS

#### From project to program

CHRISP has continued to work on key partnership research themes, such as health service utilisation, and risk factors for adverse events and recurrent hospitalisations. The growth in CHRISP during 2021 included some project areas maturing into ongoing programs of work. Hot topics have included:

- COVID-19: new projects are exploring pandemic-related outcomes for the Illawarra-Shoalhaven population with specific conditions, including for those living with hip fracture, and with complications in pregnancy
- Chronic Kidney Disease: 6 projects investigating health impacts and risk factors, including reasons for readmission in dialysis, post-operative acute kidney injury, and mental health outcomes
- Child and family health: uptake of services and engagement of families in the Illawarra-Shoalhaven, in the first four years of child's life

#### Bringing stakeholders together

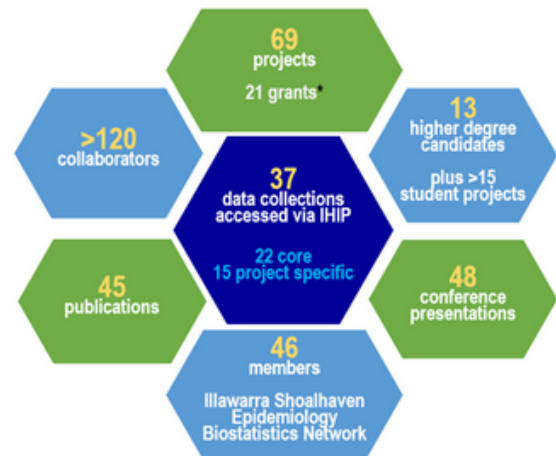
CHRISP projects have generated many important insights in 2021 where a major strength has been the ability to bring together stakeholders from different sectors. Examples include:

- CHRISP commenced work on an Education grant awarded in December 2020, establishing relationships with data custodians from NSW Education and the Department of Communities and Justice, for a population-based cohort investigating health and education outcomes. Demonstrating the ability of linked data to bring together stakeholders from education and health to improve outcomes for children and adolescents in the region, it is laying groundwork for a new program investigating the social determinants of health.
- CHRISP has continued to work on the ISLHD priority driven End of Life Patterns of Care study. It has brought together stakeholders from ISLHD, AHSRI, the UOW Graduate School of Medicine, primary care and ISLHD palliative care services. This project is also now bridging into an End of Life Emergency Department project for ISLHD
- The Antimicrobial Resistance (AMR): The evolving threat and impact to the Illawarra Population Study has developed into a research program, investigating AMR across the sectors of human health, animal health, agriculture and the environment. It has brought together ISLHD clinicians, SONIC pathologists, and UOW academic researchers with expertise in Science, Public Health, Medicine and Agriculture, as well as primary care.

### PUBLICATIONS AND GRANTS

In 2021, CHRISP published a further 18 peer reviewed articles – a 40% increase on output to 2020 (26). The total number of CHRISP-related publications (44) has now exceeded conference presentations (40). While this output partly reflects the impact of COVID-19 on the conference circuit, it is also testimony to a high conversion ratio of presentation-to-publication that is a feature of the CHRISP communications strategy.

The high quality of the CHRISP suite of projects is also evidenced in the successful award of over \$1.8million in grants to date (of which approximately 20% directly supports the costs of CHRISP).



CHRISP snapshot 2016-2021

## 2021 ISLHD RESEARCH ACTIVITY REPORT

# ILLAWARRA HEALTH AND MEDICAL RESEARCH INSTITUTE (IHMRI)

## WORKING TOGETHER FOR BETTER HEALTH

Established in 2008, the Illawarra Health and Medical Research Institute (IHMRI) is a not-for-profit charity that supports health and medical research in the Illawarra-Shoalhaven. Part of this support involves funding to assist health and medical research through the provision of grants to academics, clinicians and health professionals.

**Clinical Translation Grants** aim to encourage academic and health professional/clinician researchers to co-lead a research project to address regional and medically relevant health issues. In 2021, six collaborative projects were funded by IHMRI totalling \$120,000.

**Dr Ann-Katrin Piper and Professor Martin Carolan**

Pre-clinical assessment of FOLFIRI +/- radiation as potential new treatment regime for patients with glioblastoma multiforme in 2D and 3D models.

**Dr Monique Francois and Beenu Bastian**

Exploring the effectiveness of insulin therapy in preventing maternal and neonatal adverse outcomes in women with Gestational Diabetes Mellitus (GDM).

**Dr Michelle Townsend and Dr David Alcorn**

Biomarker and ambulatory real-time monitoring of suicide risk: a feasibility study.

**Professor Ping Yu and Dr Dylan Mordaunt**

Surgical pathway discovery: appendectomy as an archetype.

**Dr Rita Chang and Lillian Barone**

A novel approach to understand and improve the nutritional well-being and health of older people with dementia in hospital: The MEALS project.

**Associate Prof Daniel Brungs and Dr Senthilkumar Gandhidasan**

Early palliative care intervention in metastatic lung cancer patients of the Illawarra using patient reported measures.

## BECOME AN IHMRI AFFILIATED RESEARCHER

Join a network of over 320 researchers in the Illawarra-Shoalhaven who are working towards a healthier community. As an IHMRI affiliate you have access to a range of benefits including research support, networking opportunities, research funding, clinical trials support, marketing and community engagement support and access to our world-class facilities based at the University of Wollongong.



To learn more, please contact:  
E: [ihmri-research@uow.edu.au](mailto:ihmri-research@uow.edu.au)  
P: 02 4221 4333  
W: [ihmri.org.au](http://ihmri.org.au)



# JOINT UOW/ISLHD PHD PROGRAM

## PREVIOUS PHD CANDIDATES

Name	Candidature	Project Title	Supervisors
Maryam Ghahramani	2014-2018	Developing an objective and quantifiable approach to falls risk assessment in older people.	ISLHD: Prof Jan Potter UOW: Prof Fazel Naghdy, Dr David Stirling, A/Prof Golshah Naghdy
Sina Ameli	2015-2018	Fatigue Assessment in Cancer Patients through Motion & Posture	ISLHD: Prof Morteza Aghmesheh UOW: Prof Fazel Naghdy, A/Prof Golshah Naghdy, Dr David Stirling
Kelly Lambert	2015-2018	An investigation of the impact of cognitive impairment and low health literacy on facilitating dietary change in people with renal disease& strategies to improve patient outcomes.	ISLHD: Prof Maureen Lonergan UOW: A/Prof Judy Mullan, A/Prof Kylie Mansfield
Ramya Walsan	2016-2019	An exploration of the geographic distribution of coexisting mental illness and diabetes in the context of social determinants.	ISLHD: Prof Nagesh Pai, Dr Darren Mayne UOW: Dr Andrew Bonney, Dr Xiaoqi Feng
Emily Hazzard	2016-2020	Exploring the implementation of evidence based nutritional care guidelines for patients with head and neck cancer.	ISLHD: A/Prof Marianna Milosavljevic UOW: A/Prof Karen Walton, Dr Anne McMahon, S/Prof Linda Tapsell

## CURRENT PHD CANDIDATES

Name	Project Title	Supervisors
Afshan Rauf	Mindfulness, Resilience and Well-being: Its impact on organisational Outcomes	ISLHD: A/Prof Marianna Milosavljevic UOW: Dr Shamika Almeida, Dr Laura Rook
Tiffany Sandell	Follow up care in patients post cancer treatment: what works best?	ISLHD: Prof Andrew Miller UOW: Dr Heike Schutze, Dr Rowena Ivers
Helena Ibro	Using Machine Learning as a Visual Tool to assist Cancer Management	ISLHD: Dr Steven Harvey UOW: Professor Aditya Ghose, A/Prof Hoa Dam

## ACHIEVEMENTS OF THE JOINT UOW/ISLHD PHD PROGRAMME TO DATE IN 2021



32 Publications in Peer Reviewed Journals



8 commenced or completed candidatures



258 total citations



34 Conference Presentations

# ISLHD INTERNAL GRANTS

## FUNDED PROJECTS AND RESEARCHERS

The Inaugural ISLHD Early Career Researcher Grant Scheme was launched in 2020, and two further funding rounds were conducted in 2021. These were:

- Allied Health, Nursing & Midwifery Research Grants, open to any ISLHD Nurse, Midwife or Allied Health clinician, with six grants up to the value of \$10,000 being awarded
- ISLHD & IHMRI Collaborative Health Professional Research Grants, open to any ISLHD staff member, with three grants up to the value of \$30,000 being awarded.

These internal ISLHD grant schemes aim to support excellent applied clinical research led by early career ISLHD clinicians, and to advance promising ISLHD clinician researchers through providing and promoting opportunities for diverse career pathways which include research. They also enable research and research training in high quality and supportive environments, and contribute to the outcomes of District's Strategic Priorities. In particular, these include expanding ISLHD's knowledge base and research capability, enhancing the scale and focus of research across ISLHD, and also providing the opportunity for ISLHD staff to develop both research and leadership skills.

## 2021 ALLIED HEALTH, NURSING & MIDWIFERY GRANTS

These were the first grants of their type within the ISLHD Research Grants initiative, and we are incredibly excited to follow the progress of these projects improving patient outcomes, safety, quality, and sustainability in the Illawarra Shoalhaven Local Health District. The successful projects are listed below.

### Beenu Bastian

Beenu Bastian - Exploring the outcomes, perceptions and evidence about the use of insulin for women in the management of gestational diabetes mellitus and beyond pregnancy



### Melissa Bradica

Improving End of Life Care for Patients Presenting to Wollongong Hospital Emergency Department (WH ED): A Mixed Methods Study



### Pete Destry

Walking for Mental Health



### Dr Kate Croaker & Dr Samantha Broyd

Improving Patient Outcomes Post-Stroke: A randomised controlled trial of combined Cognitive Rehabilitation and Psychological Intervention



### Bronia Kandl

The effect of a text message program (TEXT4HealthyHeart) on reducing overweight and obesity for people referred to the Shoalhaven Cardiac Rehabilitation Program



### Caley Holgate

Pharmacist-Initiated Nicotine Replacement Therapy (NRT)



## 2021 ISLHD RESEARCH ACTIVITY REPORT

### ISLHD & IHMRI COLLABORATIVE HEALTH PROFESSIONAL RESEARCH GRANTS

Congratulations to the 2021 ISLHD & IHMRI Collaborative Health Professional Research Grant recipients! The following three applicants have been awarded a grant of up to \$30,000 each to conduct their research.

This was a highly competitive round, with a strong field of applicants from all areas within ISLHD, proposing research in fields with significant potential for patient impact.

#### Associate Professor Daniel Brungs - Medical Oncologist

*Immune profiling of advanced cutaneous squamous cell cancer*

This is the first study to systemically characterise the immune profile of advanced and metastatic cutaneous squamous cell carcinoma (cSCC) and will therefore provide key biological data for this disease including mechanisms of resistance to the current standard of care. By correlating findings with key clinical outcomes, the research team will identify novel biomarkers of response to immunotherapy, and will validate the most promising biomarkers in a planned separate prospective patient cohort.



#### Dr Dylan Mordaunt - Director of Medical Services, SHG

*Does telehealth improve access, equity and sustainability in regional and rural populations?*

The aim of this study is to evaluate the impact that the introduction of telehealth approaches had during COVID-19, and particularly whether access to health services was accessible, equitable and sustainable to rural and regional populations in Australia. The research team will evaluate the impact geography and the built environment have on these factors. This evaluation will occur using Illawarra Shoalhaven data, leveraging the use of, and expertise in Geographic Information Systems to provide insights both to the local community, as well as policymakers at state and commonwealth level.



#### Dr Samantha Broyd, Clinical Psychologist and Evaluation Lead for the VeCC

*Evaluating the effectiveness and feasibility of a Virtually enhanced Community care model for Chronic Disease (VeCC)*

This project aims to examine the effectiveness and feasibility of a virtual self-management intervention in combination with remote monitoring of symptoms in patients with chronic obstructive pulmonary disease and heart failure in terms of (i) patient health outcomes and quality of life, and (ii) health service usage. Secondary aims are to (i) evaluate the impact of initial patient self-management capabilities on treatment outcomes, and (ii) explore patient experience of care.



# ISLHD RESEARCH PROJECTS

The projects listed on the following pages represent projects which were approved during the course of 2021, and does not include those which have previously been approved and are ongoing.

Projects have been grouped according to clinical divisions (and subdisciplines, where appropriate), and are presented in alphabetical order. Names of ISLHD Authors are in bold.

## AGED CARE, REHABILITATION & PALLIATIVE CARE

### AGED CARE

McNeill J, Brodaty H, Ahern S, Storey E, Earnest A, Woods R, Nelson M, Liew D, Krysinska K, Ward S, Ayton D, **Christley J**, *Australian Dementia Network (ADNeT) Registry*.

Locations: Milton-Ulladulla Hospital.

External Partners: Monash University, Caulfield Hospital, The University of New South Wales, University of Tasmania.

The Australian Dementia Network (ADNeT) Registry is a clinical quality registry for people diagnosed with either dementia or Mild Cognitive Impairment (MCI). The aims of the Registry are to collect and analyse data to monitor and enhance the quality of care and patient outcomes for people diagnosed with either dementia or MCI in Australia, and to facilitate the recruitment of participants into research projects. The Registry is a multi-site, population based, observational cohort study and involves collection of identifiable patient demographic and baseline clinical data and patient and carer reported outcomes, where appropriate. Data linkage will be conducted periodically. The registry is operated as part of the wider NHMRC-funded ADNeT initiative and will be established via a pilot stage whereby methodologies for implementation will be developed and tested at several study sites. Learnings from the pilot stage will inform the national roll-out of the ADNeT Registry.

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Solowij N, Mills J, Greenwood L-M, **Potter J**, Croft R, Schira M, **Pai N**, **Miyakis S**, *Cannabidiol: Treatment of brain repair and depression in early-stage dementia*.

Locations: Wollongong Hospital.

External Partners: University of Wollongong.

The prevention and delay of dementia onset is an important public health initiative. Establishing new, effective and accessible treatments to reduce the impact of the condition and improve quality of life is paramount to improving the prognosis of people living with dementia. Cannabidiol (CBD) is a non-intoxicating compound in the cannabis plant, with accumulating evidence suggesting that CBD is a novel, well tolerated medicine with beneficial neuroprotective, antidepressant and anti-inflammatory effects. CBD may therefore be a promising candidate to help treat early-stage dementia. This study aims to investigate whether treatment with CBD may lead to improvements in brain structure and function, psychological wellbeing and quality of life in people living with early-stage dementia.

### REHABILITATION

Aggarwal A, **Murray G**, **Wallman C**, **Silvester D**, **Amato M**, **Spendley P**, *A Double-Blind, Randomized, Placebo-Controlled, Parallel-Group Phase I/II, First-in-Human Study to Assess the Safety and Efficacy of Two Doses of SX600 Administered by Lumbosacral Transforaminal Epidural Injection in Patients with Radicular Pain Secondary to Lumbar Intervertebral Disc Herniation*.

Locations: Port Kembla Hospital.

External Partners: Royal Prince Alfred Hospital, The University of Sydney.

This is a Phase I/II, double-blind, parallel-group, randomized, placebo-controlled multi-center trial in patients randomized to receive the IMP or Placebo via transforaminal epidural injection to the lumbosacral epidural space at the L4- L5, L5-S1 level, or the S1 nerve root, as an outpatient procedure. Each subject will be followed for 180 days for assessment of any treatment-emergent adverse effects, status of radicular pain, functional assessments, and the use of health care services. Safety and tolerability will be assessed through physical examination, vital signs, laboratory tests, and assessments of adverse events (AEs). Systemic pharmacokinetics of dexamethasone (active moiety) will be evaluated.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

**Murray G, Potter J, Silvester D**, *Screening for Osteoporosis in frail elderly patients recently admitted to hospital.*

Locations: Port Kembla Hospital.

Frail elderly patients discharged from hospital have high rates of falls, fractures, unplanned readmissions, residential placements and mortality. This case series pilot will study frail inpatients aged 75-89 with Rockwood Frailty scores 4-6 and assess efficacy in managing frailty syndrome features including falls/ fracture risks. The intervention will extend our existing Osteoporosis Refracture Program (ORP). This proposed program will adopt the protocol for assessment of ORP patients but be more comprehensive. Bone density studies will include vertebral fracture assessments because undiagnosed vertebral fractures amongst frail elderly people are common. Participants who have T scores of -2.5 or less, undiagnosed vertebral fracture or previous fragility fracture will be offered Pharmaceutical Benefits Scheme subsidized treatment of osteoporosis with denosumab.

### GRANTS

**Barone L, Chang R, Holloway K, Elphick N, Traynor V, Lambert K, Sharp L**, *A novel approach to understand and improve the nutritional well-being and health of older people with dementia in hospital: the MEALS project.* 2021 IHMRI Clinical Translation Grant (\$19,404).

**Solowij N, Mills J, Greenwood L-M, Potter J, Croft R, Schira M, Pai N, Miyakis S**, *Cannabidiol: Treatment of brain repair and depression in early-stage dementia.* Australian Centre for Cannabinoid Clinical and Research Excellence (\$240,000).



### ALLIED HEALTH DIETETICS

**Gruber E, Poloniato G, White M, Thomas S, Spicer N, Agius G, Cheung V, Makaroff A, Probst Y**, *Day-to-day activities of dietitians in a group of NSW public hospitals - A retrospective 10 year comparative study.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong.

The purpose of the research is two-fold: firstly, to describe current work related activities undertaken by Dietitians in various hospital settings in the Illawarra Shoalhaven Local Health District, and secondly, to compare these findings with results from a previous study and examine whether changes to work systems and processes have impacted the activity of dietitians.

**Haantjens A, Fuller A, Coleman W, Lambert K**, *Parenteral Nutrition in the Inpatient Setting: reviewing current practices and optimising patient care.*

Locations: Wollongong Hospital.

External Partners: The University of Wollongong.

Parenteral nutrition refers to the intravenous infusion of specialised nutrition solution. It is utilised frequently in acute care settings for patients when the GI tract is not functional or can't be accessed or is unable to be adequately nourished by oral or enteral means. Some health districts have a specialised nutrition support team which is responsible for the care of all parenteral nutrition cases across a hospital or service. The aim of this study is to review the literature regarding parenteral nutrition teams, and to analyse patient data regarding usage and management of parenteral nutrition at Wollongong Hospital.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Lambert K, Bernes S, **Buxton N**, *Consumer preferences for written dietary education materials.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: The University of Wollongong.

Providing written education materials to patients is considered a core component of patient education and is used to ensure high-quality patient-centred care. Previous research has shown that written education materials used by dietitians are written at a level that exceed the literacy skills of the general population, and are poorly designed and formatted. No research to date has specifically investigated the preferences of consumers. Therefore, this project intends to explore the preferences of consumers with a chronic disease regarding the content and layout of dietary education materials. Information on these preferences will be obtained via focus groups with consumers. This data will be used to help redesign current written dietary education materials.

Ridley E, Turnbull F, Hall C, Hamilton K, Krazting C, Briek L, Hastie K, Capel E, Fetterplace K, Katergaris N, Ryan S, Peake S, Biradar V, Gallagher J, Turner C, Hollis G, Sosnowski K, Dux C, McCullough J, Hames N, Moodie L, Doola R, McLaren D, Hutchinson Z, McKee P, Simpson S, Yee C, Baumgartner L, Ferrie S, Storer K, Hannah B, Guille C, Harris E, De Luca M, Nguyen G, Barrett J, **White M, Spicer N, Thomas S**, *Nutrition practice in critically ill adults - an observational study.*

Locations: Shoalhaven District Memorial Hospital.

External Partners: Monash University, Frankston Hospital, Geelong Hospital, Austin Hospital, The Alfred Hospital, St Vincent's Hospital Melbourne, Wangaratta Hospital, Royal Melbourne Hospital, Goulburn Valley Health, Ballarat Hospital, Box Hill Hospital, The Queen Elizabeth Hospital, Maroondah Hospital, Angliss Hospital, Lyell McEwin Hospital, Royal Perth Hospital, Royal Adelaide Hospital, Prince Charles Hospital, Logan Hospital, Royal Brisbane and Women's Hospital, Gold Coast University Hospital, Toowoomba Hospital, Mackay Hospital, Princess Alexandra Hospital, Ipswich Hospital, Sunshine Coast Hospital, Bundaberg Hospital, Hervey Bay Hospital, Cairns and Hinterland Hospital, Royal Prince Alfred Hospital, St Vincent's Hospital Sydney, Blacktown Hospital, Epworth Healthcare Richmond, Rockingham Hospital, Cabrini Hospital, Sunshine Hospital, Footscray Hospital.

This is a multi-centre, observational study of nutrition practices in critically ill adults across Australia and New Zealand. Observational data will be collected from the patients medical history and will include nutrition information, medical treatments and patient care. Data will be collected up to 28 days from inclusion into the study, hospital discharge or death (whichever comes first).

## PHARMACY

Chubaty A, Su Y, Adhikari S, **Orr M**, Furtula D, **Butina E**, Packham D, Nguyen D, Byun L, Konency P, **Crawford S, Shum O**, Cheung L, Li-Yan-Hui S, **Reid M, Tran P**, *Improving empiric gentamicin prescribing through the development and implementation of an electronic gentamicin dose advisor (GDA) in an electronic prescribing system.*

Locations: Shoalhaven District Memorial Hospital, Wollongong Hospital, Shellharbour Hospital.

External Partners: Prince of Wales Hospital, St George Hospital, The Sutherland Hospital, Sydney and Sydney Eye Hospital, Royal Hospital for Women, South Eastern Sydney Local Health District ICT.

Gentamicin is a highly effective antibiotic for serious infections, prescribed frequently, but associated with serious toxicity if used incorrectly. Auditing identified wider inappropriate gentamicin dosing related to the Cerner-built electronic medical record (eMR) 'hard-coded' gentamicin dose calculator defaults, risking patient safety. With serious concerns for patient safety, our collaborative team of Infectious Disease physicians, pharmacists and IT personnel developed a gentamicin dose advisor (GDA). The GDA is a system wide, integrated gentamicin decision support tool interfacing with eMR, to provide real-time dosing advice at the point of prescribing gentamicin. This project aims to evaluate the implementation and effectiveness of the GDA in our local health districts.

**Goodacre Q, Farrah M, Nicholas B**, *Factors affecting the quality of medication history taking for hospital inpatients.*

Locations: Shoalhaven District Memorial Hospital.

The aim of this study is to identify factors affecting medication history taking which contribute to incorrect medication charting. This may include the identification factors related to the quality of sources used, the number of medications, the patient's clinical condition, or whether a progress note was entered to outline the medication history/medication reconciliation.

### PHYSIOTHERAPY

**Brown P, Fitzpatrick S, Andersen K**, *Allied Health experience of an inter-disciplinary home-based pilot program targeting elderly patients discharged from the ED: A mixed method study.*  
Locations: Wollongong Hospital.

This study will pilot a novel Allied Health service providing timely, short-term at-home care to elderly (>65 years) patients, either acutely admitted or presenting to two ISLHD Emergency Departments. The aim of the pilot is to avoid hospitalization. The purpose will be to explore the inter-disciplinary experience of this Allied Health team over the life of the pilot. It will assess the extent to which interdisciplinary collaboration has occurred, and examine the challenges and benefits of incorporating interdisciplinary competencies from the perspective of the clinician.

Penm J, Liu S, Ogul S, Adie S, Patanwala A, Naylor J, Stevens J, Brady B, **Mayze E, Eastment C**, *Responsible Opioid Use for Hip and Knee Arthroplasty (OpioidHALT) Pilot Study.*

Locations: Wollongong Hospital, Shoalhaven District Memorial Hospital.

External Partners: The University of Sydney, Prince of Wales Hospital, Fairfield Hospital, Sutherland Hospital, Royal Prince Alfred Hospital, The University of Sydney, South Western Sydney Local Health District, St Vincent's Hospital Sydney, University of Notre Dame, Liverpool Hospital.

Opioids are regularly used for chronic osteoarthritis pain despite evidence showing it is no better than simple analgesia. Opioid use before surgery has also been linked to increased pain and reduced mobility after joint replacement surgery. Elective surgery presents an opportunity to optimise pain management by tapering opioid analgesics, yet few studies have conducted research in this area. This project aims to fill a research gap on how to effectively reduce opioid use before elective joint replacement surgery. A three-arm randomised controlled pilot trial will be conducted to assess the feasibility of a opioid tapering interventions compared to usual care.



### PODIATRY

Lasschuit J, Andrikopoulos S, Wischer N, Twigg S, Lazzarini P, Frank G, **Allen D, Luttrell M**, *Australian Diabetes High Risk Foot Service Database.*

Locations: Wollongong Hospital.

External Partners: St Vincent's Hospital Sydney, Garvan Institute of Medical Research, University of New South Wales, Australian Diabetes Society, National Association of Diabetes Centres, The University of Sydney, Royal Prince Alfred Hospital, Queensland University of Technology, Diabetic Foot Australia.

Data collection is key to determining process and patient outcomes, thereby enabling service quality review and improvement. Standardising data collection across High Risk Foot Services (HRFS) nationally will create unprecedented opportunity for audit, benchmarking and collaborative research. Several services have identified challenges in meeting Standard 8 (Quality Improvement) of the National Association of Diabetes Centres Collaborative Interdisciplinary Diabetes HRFS Standards and this database is designed to help realise that Standard. This minimum dataset has been carefully developed into a user-friendly, accessible and free e-data collection tool by use of REDCap. With uptake of unified data collection across Australia we will be creating a database of international standing. Furthermore, individual services will have the means to evaluate service efficacy and resource allocation, and to direct service improvement.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

### SOCIAL WORK

Allen J, Olcon K, Knezevic A, **Pai P**, **Poulton A**, *Using a wellness model (SEED) to prepare health care workers to implement and embed Patient Reported Measures (PRMs) in the inpatient setting.*

Locations: Wollongong Hospital, Shoalhaven District Memorial Hospital, Shellharbour Hospital.

External Partners: The University of Wollongong.

This study will use a mixed-method design to capture the process and impact of the implementation of Patient Reported Measures (PRMs) via the information technology platform Health Outcome and Patient Experience (HOPE) in ISLHD. It is the only District in NSW Health implementing PRMs in inpatient wards with general staff. The ISLHD is implementing PRMs using the SEED wellness model, which was developed in the ISLHD to support staff post bushfires in 2020. The study findings will provide key learnings from the ISLHD that could inform the implementation of PRMs at other health care services. This study will evaluate whether the inclusion of the SEED staff wellness model will influence the uptake and maintenance of PRMs in two trial inpatient wards in the ISLHD.

Keevers L, Allan J, Degeling C, Mackay M, Falzon K, Olcon K, Fox M, Finlay S, **Pai P**, *Narratives of recovery - Practices supporting community mental health and wellbeing post-bushfires and COVID-19.*

Locations: Milton Ulladulla Hospital, Coledale District Hospital, Bulli District Hospital, Wollongong Hospital.

External Partners: The University of Wollongong, Waminda, University of Canberra.

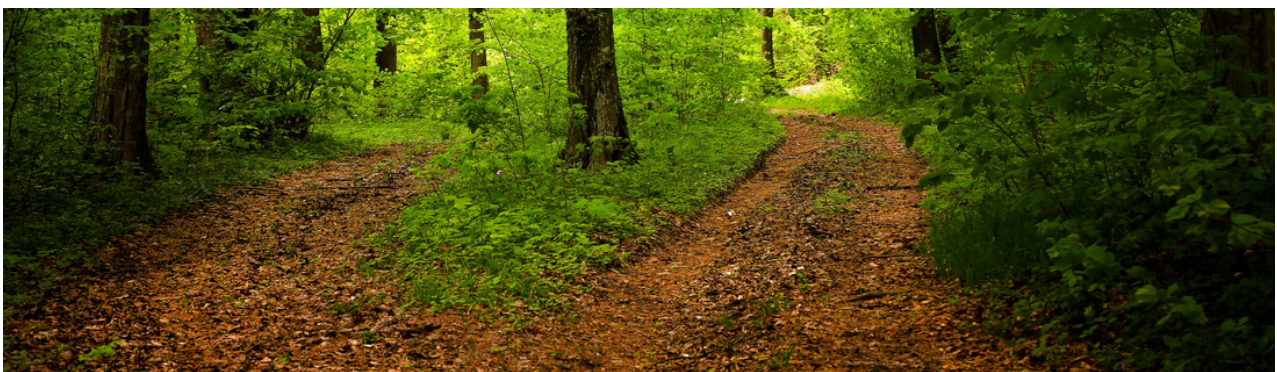
This study will investigate narratives about practices implemented by Waminda and Illawarra Shoalhaven Local Health District to support mental well-being, healing and recovery from bushfires and COVID-19. Local responses to community need are grounded in contextual knowledge and use existing resources rather than relying on system responses and funding. Exploring collective stories from participating health services will identify practices and interventions that enhance healing, recovery and well-being for service recipients, health staff, their communities and Country. The project aims to 1) Articulate practices that assist communities regain their sense of belonging, hope for the future, control over their lives and their capacities to care for and be cared for by country; and 2) Investigate how the connections between practices enacted with health staff, service participants and communities to enhance mental, spiritual and well-being work together to create a model of care that mitigates the mental health consequences of cumulative trauma.

Olcon K, **Destry P**, Allan J, Tambyah R, *The Benefits of a Nature Walking Group within a Community Mental Health Setting.*

Locations: Illawarra Shoalhaven Local Health District Mental Health Services.

External Partners: University of Wollongong.

This research will examine whether engagement with the local natural environments via walking groups enhances the recovery and wellbeing of mental health service recipients. The findings will indicate whether health programs such as the Illawarra Community Mental Health Service, the partner organization in this research project, should encourage and accommodate nature-based interventions. This research involves launching a pilot program that will provide an opportunity to the mental health consumers to engage in group nature walks facilitated by two mental health clinicians. Data will be collected from the participants and clinicians involved in the nature group walks. The project will allow the researchers to develop an understanding of the potential benefits of nature walking groups within a community mental health setting.





## 2021 ISLHD RESEARCH ACTIVITY REPORT

### GRANTS

Allen J, Olcon K, Knezevic A, **Pai P, Poulton A**, *Using a wellness model (SEED) to prepare health care workers to implement and embed Patient Reported Measures (PRMs) in the inpatient setting*. NSW Agency for Clinical Innovation (\$27,000).

**Destry P**, Olcon K, Allan J, *Walking for Mental Health*. 2021 ISLHD Allied Health, Nursing & Midwifery Research Grants (\$9,874.50).

**Holgate C, Moharib M, Thompson J, Vine M, Davis K**, *Pharmacist-Initiated Nicotine Replacement Therapy (NRT)*. 2021 ISLHD Allied Health, Nursing & Midwifery Research Grants (\$9,984).

Keevers L, Allan J, Degeling C, Mackay M, Falzon K, Olcon K, Fox M, Finlay S, **Pai P**, *Narratives of recovery - Practices supporting community mental health and wellbeing post-bushfires and COVID-19*. NHMRC Medical Research Future Fund COVID-19 Mental Health (\$425,803.45) and UOW Community Engagement Grants Scheme (\$12,978).

Lambert K, Bernes S, **Buxton N**, Consumer preferences for written dietary education materials. UOW Faculty of Science Medicine and Health.

## AMBULATORY & PRIMARY HEALTH CARE

### HEALTH PROMOTION

Hammersley M, **Norman J**, Jones R, Plumb M, Smithers L, **Furber S, Leedham M**, *Bridging the health gap – assessing the acceptability and feasibility of healthy eating and physical activity narrative-style audiovisual content and text messaging for families with young children from socio-economically disadvantaged backgrounds (Healthy Kids Vids)*.

Locations: Illawarra Shoalhaven Local Health District.

External Partners: The University of Wollongong.

The aim of this project is to evaluate the acceptability of audiovisual (AV) media and text messaging, in promoting child healthy eating and physical activity from socio-economically disadvantaged backgrounds. The objectives are to 1) develop a suite of six to twelve short audiovisual clips narrated by parents of young children from socio-economically disadvantaged backgrounds, and a bank of related text messages which focus on key healthy eating and physical activity practices, personal experiences and recounts; and 2) determine the acceptability and feasibility of the audiovisual clips and text messages for parents of young children from socio-economically disadvantaged backgrounds.

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Kariippanon K, Okley T, Wardle K, Camilleri M, **Norman J, Budgen P, Callahan H**, *Race Around Australia (RAA) Evaluation*.

Locations: Illawarra Shoalhaven Local Health District Ambulatory and Primary Care Services.

External Partners: University of Wollongong, South Western Sydney Local Health District.

The aim of this study is to investigate the feasibility, acceptability and efficacy of Race Around Australia (RAA) on health and well-being outcomes among children in primary and secondary schools in the Illawarra Shoalhaven and South Western Sydney Local Health Districts. RAA is a school-based physical activity initiative where classes and schools virtually race each other around Australia. Baseline and follow-up measurements will be collected from students (Years 5-8) and will include cardiovascular fitness, physical activity, sedentary time and wellbeing. Feasibility and acceptability will be assessed through interviews with the teachers following their intervention period.

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**Nicholls N, Tavener-Smith K**, Powter H, Middleton M, *Reported long term benefits and feedback of participants who completed a lifestyle program between 2015-2020*.

Locations: Illawarra Shoalhaven Ambulatory and Primary Health Care.

External Partners: The University of Wollongong, Wollongong City Council.

This research will assess the longer term lifestyle impacts of a 12-24 week exercise program. It will determine if there is a long term benefit of exercise integrated into lifestyle following a directed exercise program. Through partnering with consumers it further will research if there is interest to align nutrition-related advice alongside an exercise program to enhance the programs outcomes and benefit to participants in the future.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Okely A, **Norman J**, Wardle K, Probst Y, Davies M, Ryan S, Woods A, *Co-design of a physical activity and healthy eating intervention in Outside School Hours Care services.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: The University of Wollongong, South Western Sydney Local Health District.

The aim of this study is to involve Outside School Hours Care (OSHC) stakeholders and end-users in the co-creation of an intervention for the promotion of physical activity and healthy eating in OSHC services. The method is to conduct focus groups and semi-structured interviews. In these, the results from the observational audit will be presented, and possible intervention strategies discussed with key stakeholders. The purpose of the focus groups and interviews is to inform the development of a physical activity and healthy eating intervention in the setting.



Okely A, Wardle K, **Norman J**, Kelly B, Ryan S, Tran G, *Developing and testing an online support tool for service providers and educators in family day care to improve nutrition and physical activity practice.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: The University of Wollongong, South Western Sydney Local Health District.

The aim of this study is to develop and trial an online support tool for service providers and educators to improve practices and environments related to healthy eating and movement behaviours in family day care. This study will utilise focus groups to obtain feedback from key stakeholders to inform the development of the tool. The purpose of the focus group is to obtain sector feedback on the relevance, clarity, content and format of the proposed tool.

Okley A, **Furber S**, Wardle K, Hammersley M, Elbayeh L, Ryan S, Davis M, Basheer M, *The potential acceptability of a Smartphone App to promote healthy eating and physical activity among stakeholders of the Outside School Hours Care (OSHC) sector.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong, South Western Sydney Local Health District.

The aim of this study is to explore the acceptability of the use of a Smartphone app for the promotion of healthy eating and physical activity in OSHC services. The method is to conduct focus groups and semi-structured interviews with key stakeholders within the OSHC sector about the acceptability and use of a Smartphone app. The feedback received from the focus groups/interviews will be valuable as it will inform our intervention study which will assist OSHC services in improving healthy eating behaviours, sedentary behaviour and the levels of physical activity in primary school aged children (4 – 12 years) attending OSHC services.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Okley A, **Furber S**, Wardle K, Hammersley M, Patel L, Ryan S, Davies M, *Evaluating the acceptability, feasibility, and potential effectiveness of a mobile Health intervention (the Eat Smart Play Smart App) for the promotion of healthy eating and physical activity in Outside School Hours Care (OSHC) services.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: The University of Wollongong, South Western Sydney Local Health District.

The purpose of this research study is to evaluate the feasibility of the Eat Smart Play Smart App with OSHC services to improve educators' practices in the promotion of healthy eating and physical activity behaviours among attending children. Snack foods and participation in physical activity among children attending OSHC services will be observed at the start and at the end of the study. In addition, the services that receive access to the App will be asked to complete an online questionnaire to determine user satisfaction with various aspects of the App. App usage data will automatically be captured to inform assessments of the strengths and weakness of the App. This study will analyse staff engagement with the ESPS App and consider its associations with changes in educators' practices in promoting healthy eating and physical activity.

## VIRTUAL CARE & TELEHEALTH

**Mordaunt D**, Coffee NT, Blake M, Learnihan V, Schroers R-D, **Davis KJ**, **Nicholas B**, *What was the impact of telehealth on geographic accessibility of health services during COVID-19?*

Locations: Shoalhaven District Memorial Hospital.

External Partners: The University of Canberra.

Access to primary healthcare can present issues for vulnerable populations, as well as populations in rural and regional communities. This project aims to assess patterns of primary healthcare accessibility within the Illawarra and Shoalhaven region for 2019/20. This project aims to explore, using geospatial mapping modelling, the impact COVID-19 and the sudden uptake of telehealth on healthcare access within the Illawarra Shoalhaven. This project will identify key geographic areas and populations within the Illawarra Shoalhaven where greater access intervention may be required. This project will also identify whether the advent of compulsory telehealth improved accessibility for population areas that previously had difficulty accessing primary healthcare.

## GRANTS

**Broyd S**, Lambert K, **Muir K-L**, **Rendel P**, **Jones A**, **Samuel Sameh**, **Furber S**, *Evaluating the effectiveness and feasibility of a Virtually enhanced Community Care model for Chronic Disease.* 2021 ISLHD & IHMRI Collaborative Health Professional Research Grants (\$27,508).

**Lade C**, **Rutherford A**, *HIV Pre-Exposure Prophylaxis in Australian Women – Improving Access in Primary Care.* Gilead Sciences (\$5,000).

**Mordaunt D**, **Davis K**, Coffee N, Blake M, Learnihan V, Coote P, Schroers R-D, *Does telehealth improve access, equity and sustainability in regional and rural populations?* 2021 ISLHD & IHMRI Collaborative Health Professional Research Grants (\$29,123.20).

## CANCER CARE

Azad A, Zhang D, **Brungs D**, **Glasgow A**, **Leighton C**, **Robinson S**, *A Phase 3, Randomized, Open-Label, Controlled Study of Cabozantinib (XL184) in Combination with Atezolizumab vs Second Novel Hormonal Therapy (NHT) in Subjects with Metastatic Castration-Resistant Prostate Cancer.*

Locations: Wollongong Hospital.

External Partners: Peter MacCallum Cancer Centre, Box Hill Hospital, Frankston Hospital, Ballarat Base Hospital, Royal Adelaide Hospital, Canberra Hospital.

The purpose of this study is to find out whether cabozantinib in combination with atezolizumab is effective in treating metastatic castration-resistant prostate cancer compared with a second Novel Hormonal Therapy. The novel hormonal therapies (NHT) used in the study are abiraterone and enzalutamide.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

**Brungs D, Shinkel T, Chantrill L, Clingan P, Leighton C, Robinson S, Singh S, Yeo N, A** *Phase II Multicenter, Open-Label, Single Arm Study to Determine the Efficacy, Safety and Tolerability of AZD2811 and Durvalumab Combination as Maintenance Therapy After Induction with Platinum-Based Chemotherapy Combined with Durvalumab, for the First-Line Treatment of Patients with Extensive Stage Small-Cell Lung Cancer (TAZMAN).*

Locations: Wollongong Hospital.

External Partners: St Vincent's Hospital Melbourne.

Small-cell lung cancer can grow and spread quickly, and is one of two main types of lung cancer. It is normally treated with platinum-based chemotherapy, followed by Durvalumab. Platinum-based chemotherapy is a cancer treatment that uses a platinum metal based compound to attach to the DNA in the cancer cell, blocking the cell's ability to read the code, causing the cancer cell to die. Durvalumab is another anti-cancer drug that targets cancer cells by blocking the signals that stops the immune system from finding the cancer cell, allowing your immune system to fight and kill the cancer cells. AZD2811 is an investigational drug that will be used alongside Durvalumab. AZD2811 is an Aurora B Kinase inhibitor and stop the process of cell division. The aurora kinases are potential targets for anticancer therapy.

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**Brungs D, Yeo NKS,** *Immunotherapy (PD-1 inhibition) for advanced cutaneous squamous cell carcinoma: A retrospective review.*

Locations: Wollongong Hospital.

Not all patients with Squamous Cell Carcinoma (SCC) respond to immunotherapy. As clinical trials shift to earlier administration of immunotherapy in patients' treatment paradigms, there is an urgent need to identify biomarkers which predict response to immunotherapy. This project therefore aims to assess the responses to treatment with PD-1 inhibition in patients who have advanced SCC, and also to assess the influence of patient and tumour factors in determining responses to PD-1 inhibition.

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**Burge M, Karikios D, Brungs D, Chantrill L, Clingan P, Aghmesheh M, Downton T, Bennett T, Singh S, Downton K, Yeo N, Leighton C, Robinson S,** *A Phase 3, Randomized Study to Evaluate the Efficacy and Safety of Lenvatinib plus Pembrolizumab plus Chemotherapy Compared with Standard of Care Therapy as First-line Intervention in Participants with Advanced/Metastatic Gastroesophageal Adenocarcinoma (LEAP-015).*

Locations: Wollongong Hospital.

External Partners: Royal Brisbane and Women's Hospital, Nepean Hospital.

This study will include male and female participants with previously untreated, locally advanced unresectable or metastatic gastric, gastroesophageal junction or esophageal adenocarcinoma who are  $\geq 18$  years.





## 2021 ISLHD RESEARCH ACTIVITY REPORT

**Chantrill L, Leighton C, Aghmesheh M, Brungs D, Clingan P, Robinson S, MoST PORCUPINE2: A Modular, Phase II, Open-Label, Multicentre Study to Assess the Preliminary Efficacy and Safety of RXC004, in Patients with Advanced Solid Tumours that have Progressed following Therapy with Current Standard of Care.**  
Locations: Wollongong Hospital.

This study will assess the anti-cancer activity of RXC004 in participants with advanced solid cancers (at this time, this includes biliary tract cancer or pancreatic cancer) whose cancer has worsened following therapy with current standard of care. Furthermore, this study will assess the pharmacokinetics, safety, and tolerability of RXC004. Lastly, the study will explore potential biomarkers – these are molecules (for example, certain proteins) in the human body which can be tested to tell if people suffer from certain diseases and how they may respond differently to medication. These biomarkers may correlate with response to therapy and/or may be indicative of the effects of RXC004 on the body (called pharmacodynamics). The study will also explore the effect of RXC004 on patients' cancer using FDG-PET (F-deoxyglucose positron emission tomography) scans.

**Gafoor MAA, Miller A, Vijayakumar V, An external validation of the Candiolo Nomogram in a cohort of Australian patients treated with primary radiotherapy for prostate cancer.**  
Locations: Illawarra Shoalhaven Local Health District.

This study aims to perform an external validation for the Candiolo nomogram, an algorithm designed to predict prostate cancer recurrence in patients treated with radiotherapy, using data from an Australian institution.

**Gibbs P, Solomon B, Pavlakis N, Kao S, Roberts-Thomson R, Nott L, Hughes B, Leong D, Millward M, Brungs D, Yeo N, Prevalence and clinical outcomes of KRASG12C mutated advanced lung cancer patients in Australia.**

Locations: Wollongong Hospital.

External Partners: Walter and Eliza Hall Institute of Medical Research, Peter MacCallum Cancer Centre, Royal North Shore Hospital, Chris O'Brien Lifehouse, The Queen Elizabeth Hospital, Royal Hobart Hospital, Royal Brisbane and Women's Hospital, Canberra Hospital, Sir Charles Gardiner Hospital.

This is a retrospective cohort study of advanced KRAS G12C mutated non small cell lung cancer (NSCLC) patients diagnosed and treated in Australian cancer therapy centres. The primary objectives of this study are to determine the prevalence of KRASG12C mutated advanced NSCLC patients at Australian centres, describe the clinicopathological characteristics, an assess real world treatment and outcomes of KRASG12C mutated advanced NSCLC. Information obtained from this study will inform further study design and interpretation, including the potential real-world impact of a drug that is active in this patient population.

**Grierson E, de Leon J, Wilkinson D, Bell L, Dosimetric impact of uniform versus differential prostate bed expansion margins in post-prostatectomy prostate cancer patients utilising image-guided radiotherapy (IGRT).**

Locations: Wollongong Hospital.

The aim of this study is to determine the optimal Planning Target Volume margin for adequate Clinical Target Volume dose, while minimising the dose received by the rectum and bladder during an entire radiotherapy course. Bony match will be compared to clip match to determine the preferred image guidance policy.

**Grierson E, Trinh H, Miller A, Chen HMN, Outcomes of Merkel Cell Carcinoma from a single institution.**

Locations: Wollongong Hospital.

Merkel cell carcinoma (MCC) is a rare, cutaneous neuroendocrine cancer. Using the existing ISLHD cancer services database, this project will provide demographic and tumour related covariate insights, assessing patient characteristics, treatment received, plus recurrence and survival.



Martin J, Scuffham P, Agar M, Lintzeris N, Eagar K, Lacey J, Grimison P, Chye R, Zielinski R, Dalton C, Galettis P, Lucas C, Liu Z, Schneider J, **Mapagu M, Chantrill L, Brungs D, Aghmesheh M, Glasgow A, Clingan P, Singh S, Robinson S, Leighton C, Fox C, Nasser E, Miller A, Fylyk G, Chen J, Gandhidasan S, Presgrave P, Warburton P, Parmar G, Cartwright K, Desai S, King K, Appadoo K, Yeo N**, *Cannabinoids for Symptom Control in Advanced Cancer, an Open Label Prospective Clinical Trial in NSW (CARE NSW)*.

Locations: Wollongong Hospital.

External Partners: University of Newcastle, Griffith University, University of Technology Sydney, The University of Sydney, South Eastern Sydney Local Health District, University of Wollongong, Chris O'Brien Lifehouse, Western Sydney University, St Vincent's Hospital Sydney, Orange Hospital, Hunter New England Local Health District.

This study is designed to be a 'real-world' clinical study to establish the clinical effects and pharmacokinetic characteristics of Tetrahydrocannabinol (THC) and Cannabidiol (CBD) containing products in an advanced cancer setting. The key aim of the study is to ensure quality and safety in the implementation of cannabis medicines in the advanced cancer setting by filling/addressing this current clinical evidence gap. This includes early identification and quantification of side effects and risks to health from the use of cannabis medicines. Gathering this evidence in terms of patient outcomes, and understanding drug-drug interactions and adverse events will, in turn, inform direct and robust guidance for Advanced Cancer patients, general practitioners, prescribers and the public.

**Miller AA, Schumacher M**, *RadScore001: Validation of a radiomics-based Rad Score predicting Lymph Node positivity in Stage I-II Non-Small Cell Lung Cancer*.

Locations: Wollongong Hospital.

This study aims to test the validity of the Lymph Node Rad Score against the non-contrast planning CTs of a cohort of State I/II patients from the Illawarra Cancer Care Centre.

**Parmar G, Prince HM, Presgrave P, Warburton P, Cartwright K, Desai S, Leighton C, Robinson S**, *Phase 1-2 trial evaluating anti-TGFB agent or pomalidomide in combination with isatuximab and dexamethasone in relapsed or refractory multiple myeloma*.

Locations: Wollongong Hospital.

External Partners: Epworth Healthcare.

Proteasome inhibitors (PIs) and immunomodulatory drugs (IMiDs) have significantly improved survival in patients with multiple myeloma (MM). However, MM eventually becomes refractory to these classes of drugs. Patients with relapsed or refractory MM (RRMM) who have progressed through multiple prior lines of therapy need novel, effective, targeted agents. There is enthusiasm that novel approaches will provide clinical benefit in this challenging population.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Patil S, Nagendraprasad S, Cochrane T, Renwick W, Leahy M, Badoux X, Lee D, Chong G, Giri P, **Presgrave P, Parmar G, Warburton P, Cartwright K, Desai S**, *A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Multicenter Study to Evaluate the Efficacy and Safety of Tafasitamab Plus Lenalidomide in Addition to Rituximab Versus Lenalidomide in Addition to Rituximab in Patients With Relapsed/Refractory (R/R) Follicular Lymphoma Grade 1 to 3a or R/R Marginal Zone Lymphoma.*

Locations: Wollongong Hospital.

External Partners: The Alfred Hospital, Liverpool Hospital, Gold Coast Hospital, Sunshine Hospital, Royal Perth Hospital, St George Hospital, Box Hill Hospital, Northern Hospital Victoria, Royal Adelaide Hospital.

This study is designed to investigate whether tafasitamab and lenalidomide as add-on to rituximab provides improved clinical benefit compared with lenalidomide as an add-on to rituximab alone in patients with R/R Follicular Lymphoma Grade 1 to 3a or R/R Marginal Zone Lymphoma.

Prawira A, **Aghmesheh M**, Lim A, Ladwa R, Hart C, **Brungs D, Leighton C, Robinson S**, *A randomized, double-blind placebo-controlled, Phase 3 study of Debio 1143 in combination with platinum-based chemotherapy and standard fractionation intensity modulated radiotherapy in patients with locally advanced squamous cell carcinoma of the head and neck, suitable for definitive chemoradiotherapy (TrilynX).*

Locations: Wollongong Hospital.

External Partners: St Vincent's Hospital Sydney, Peter MacCallum Cancer Centre, Princess Alexandra Hospital, St Vincent's Hospital Melbourne.

The study drug Debio 1143 is being assessed to see if it can improve treatment outcomes for participants with locally advanced squamous cell carcinoma of the head and neck when used in combination with platinum-based chemotherapy and radiotherapy. The main purpose of this study is to learn how well the study drug works and how safe the study medicine is compared with placebo.

Rischin D, Firkin C, **Brungs D, Trinh H, Yeo N, Leighton C, Cardoso E**, *A randomized, placebo controlled double blind study of adjuvant cemiplimab versus placebo after surgery and radiation therapy in patients with high risk cutaneous squamous cell carcinoma.*

Locations: Shoalhaven District Memorial Hospital.

External Partners: Peter MacCallum Cancer Centre, St Vincent's Hospital Melbourne, Royal Brisbane and Women's Hospital, Princess Alexandra Hospital, Genesis Care, Royal Adelaide Hospital, Gosford and Wyong Hospitals, Liverpool Hospital, Westmead Hospital.

This research project involves an investigational study drug: Cemiplimab. The main purpose of this research is to determine if cemiplimab will prevent cutaneous squamous cell cancer from returning after surgery and radiation.

Roy A, Mead K, Bright T, Karapetis C, Price T, Connel C, Burge M, **Chantrill L, Singhal N, Robinson S, Leighton C, Brungs D, Aghmesheh M**, *Neoadjuvant Immune-Chemo-Radiotherapy in operable oEsophageal and gastro-oesophageal junction cancers with Carboplatin Paclitaxel Radiotherapy and Avelumab - a Trial assessing feasibility and preliminary Efficacy (NEOCREATE).*

Locations: Wollongong Hospital.

External Partners: Central Adelaide Local Health Network, Flinders Medical Centre, The Queen Elizabeth Hospital, Adelaide Radiotherapy, Royal Brisbane Hospital, Royal Adelaide Hospital, Lyell McEwin Hospital.

A phase II study with safety run in to evaluate safety and preliminary efficacy of Avelumab in combination with chemotherapy plus radiotherapy in patients with resectable oesophageal/gastro-oesophageal junction (GOJ) adenocarcinoma. This is a single arm study. Patients will receive carboplatin/paclitaxel/radiotherapy, which is considered a standard of care treatment, with the addition of avelumab. Patients will then proceed to surgery, which is also considered a standard treatment pathway for this patient population.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

Spring K, Kaadan N, **Carolán M**, Villanueva D, *Clinical and Translational Informatics System (CTIS)*.

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Western Sydney University, Ingham Institute, South Western Sydney Local Health District.

To effectively use and protect valuable clinical data a web-accessible real-time information management system has been established. The Clinical and Translational informatics (CTIS) platform (CTIS-Labmatrix) is a customised commercial solution (BioFortis Inc) that is housed in a eHealth approved UNSW secure server and links two NSW Local Health Districts (SWSLHD and ISLHD) enabling scalable clinical data linkage infrastructure. The unique capability of CTIS-Labmatrix supports multi-site collaboration, patient registration, dynamic and continuously updating of clinical data and data quality assurance linked to a user-friendly data querying tool for reports, data results and hypothesis generation. CTIS-Labmatrix has the flexibility, security and data access control to support fully partitioned studies involving biobanking, investigator driven clinical trials and patient-orientated translational research activities within a single unified secure environment.

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Thant A, D'Rozario J, Forsyth C, Hamad N, Johnston A, Sungala N, Shuttleworth C, **Presgrave P**, Tan YL, Vanguru V, Ku M, Gregory G, Chong G, Ratnasingam S, Renwick W, Hawkes E, Narayana M, Wight J, Giri P, Leahy M, Cannell P, **Parmar G, Warburton P, Cartwright K, Desai S, King K, Cashman H, Leighton C, Robinson S**, *A phase 3, multicenter, randomized, double-blind, placebo-controlled trial comparing the efficacy and safety of tafasitamab plus lenalidomide in addition to R-CHOP versus R-CHOP in previously untreated, high-intermediate and high-risk patients with newly-diagnosed diffuse large B-cell lymphoma.*

Locations: Wollongong Hospital.

External Partners: Calvary Mater Newcastle, The Canberra Hospital, Gosford Hospital, St Vincent's Hospital Sydney, Westmead Hospital, Liverpool Hospital, St George Hospital, Nepean Hospital, Royal Prince Alfred Hospital, St Vincent's Hospital Melbourne, Monash Health, Ballarat Health Services, University Hospital Geelong, Sunshine Hospital, Box Hill Hospital, Sunshine Coast University Hospital, Townsville University Hospital, Royal Adelaide Hospital, Royal Perth Hospital, Fiona Stanley Hospital.

This phase 3, multicenter, randomized, double-blind, placebo-controlled study is designed to investigate whether tafasitamab plus lenalidomide as add-on therapy to R-CHOP provides improved clinical benefit compared to R-CHOP in patients with newly-diagnosed high-intermediate and high-risk diffuse large B-cell lymphoma.

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Vardy J, Clarke S, Karikos D, **Chantrill L**, Fox P, Dhillon H, Stockler M, Teng C, Park S, Blinman P, **Brungs D, Aghmesheh M, Glasgow A, Mapagu M, Clingan P, Robinson S, Leighton C, Appadoo K, Yao N, Singh S, Bennett T**, *OXTOX: Can Oxaliplatin neurotoxicity be reduced with ibudilast in people with metastatic colorectal cancer - a phase II randomised study.*

Locations: Wollongong Hospital.

External Partners: Concord Repatriation General Hospital, The University of Sydney, Northern Sydney Local Health District, Royal North Shore Hospital, Nepean Cancer Centre, Central West Cancer Care Centre, Concord Cancer Centre.

Oxaliplatin chemotherapy improves survival but causes acute neuropathy (pain on touching or swallowing cold objects or fluids, particularly) and chronic chemotherapy-induced peripheral neuropathy (CIPN) in almost everyone receiving it. This causes numbness, discomfort, and pain, especially in the hands and feet. CIPN can last for months to years after stopping treatment and significantly impacts quality of life and functional status. CIPN is the most common cause of patients needing a reduction in their oxaliplatin dose or having to stop oxaliplatin early. Currently there is no effective prevention or treatment, however animal studies have shown that taking ibudilast with oxaliplatin prevented symptoms of acute neurotoxicity and CIPN. This randomised phase II study evaluates whether ibudilast decreases the severity of acute neuropathy in humans and enables people with metastatic colorectal cancer to receive more oxaliplatin before needing dose modification for CIPN.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

### GRANTS

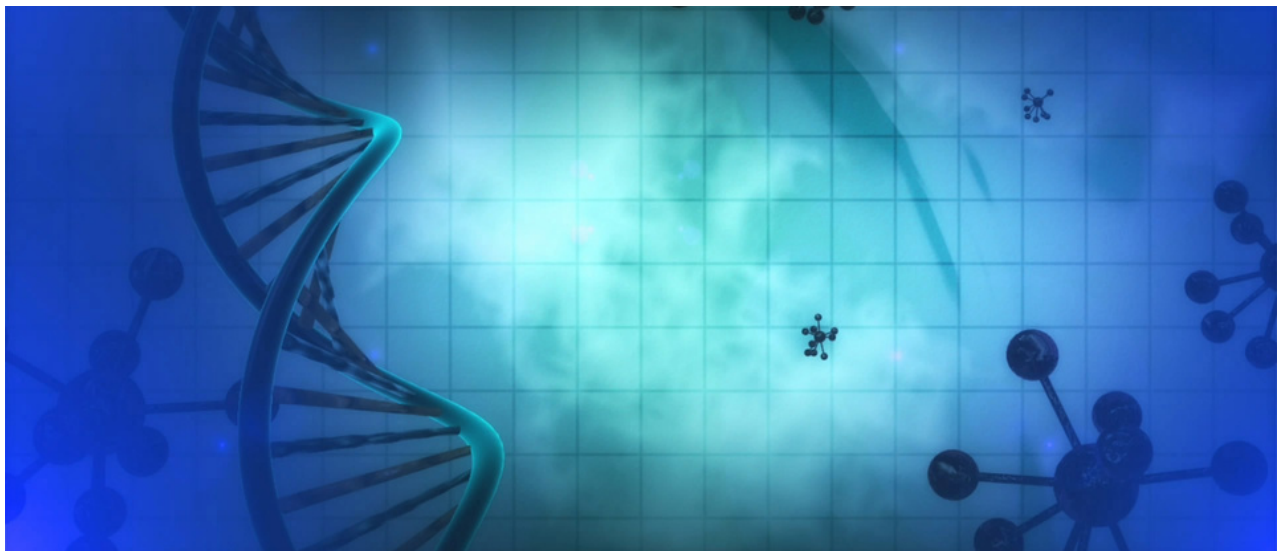
Becker T, Lock J, Roberts T, Meijering E, Bray V, **Brungs D**, Ding P, Keat K, Pal A, *Revolutionising immunotherapy response prediction in non-small cell lung cancer via longitudinal single-cell proteomic analysis of liquid biopsy derived cancer and immune cells*. NHMRC Ideas Grant (\$1,356,196.80).

**Brungs D**, Ranson M, **Ashford B**, *Immune profiling of advanced cutaneous squamous cell cancer*. 2021 ISLHD & IHMRI Collaborative Health Professional Research Grants (\$27,220).

**Carolan M**, Piper A-K, **Brungs D**, Ooi L, Ranson M, Ma Y, *Pre-clinical assessment of FOLFIRI +/- radiation as potential new treatment regime for patients with glioblastoma multiforme in 2D and 3D models*. 2021 IHMRI Clinical Translation Grant (\$19,718.66).

**Gandhidasan S**, **Brungs D**, **Nangati Z**, **Barclay G**, **Miller A**, **Arnold A**, **Carolan M**, **Dunn S**, **Sheehan R**, **Arnold B**, **Fon C**, **Eyles M**, *Early palliative care intervention in metastatic lung cancer patients of the illawarra using patient reported measures*. 2021 IHMRI Clinical Translation Grant (\$19,819).

Vardy J, Clarke S, Karikos D, **Chantrill L**, Fox P, Dhillon H, Stockler M, Teng C, Park S, Blinman P, *OXTOX: Can Oxaliplatin neurotoxicity be reduced with ibudilast in people with metastatic colorectal cancer - a phase II randomised study*. Australasian Gastro-Intestinal Trials Group Innovation Fund (\$200,000).



### CRITICAL CARE

**Carillo-Hayley J**, **Outmezguine J**, **Joseph K**, **Seth I**, **Curtis K**, **Krizanac J**, Derflinger LP, **Cleophas S**, *Implications of Language Barriers for Healthcare at New South Wales using Centre for Health Research Illawarra Shoalhaven Population database*.

Locations: Wollongong Hospital, Shoalhaven District Memorial Hospital, Shellharbour Hospital, Milton-Ulladulla Hospital.

External Partners: Center for Health Research Illawarra Shoalhaven Population (CHRISP).

The aim of this project is to perform a retrospective analysis regarding the demographics of patients presenting in the Emergency Departments in the Illawarra Shoalhaven Local Health District in order to identify any relationship between emergency health service outcomes for Non-English speaking and English speaking patients.

Craig S, Dalziel S, Borland M, Buntine P, George S, Tham D, Perez S, Tran V, Forero R, Gangathimmaiah V, Foster K, O'Reilly G, Furyk J, Keijzers G, Carrigan T, Stella J, Salter M, Ben-Meir M, Knott J, Hutton J, Taylor D, Beck S, Cameron P, Mosley I, McNulty R, Halkidis L, Singh K, Wong A, Jones P, Celenza A, Mountain D, Walters K, Oakley E, Hannon L, Tagg A, Cheek J, Jani S, Wood J, West A, Macdonald S, Fong C, Arendts G, Mitchell R, Sri-Ganeshan M, Neutze J, Rogan A, Jones S, Tan E, Hiscock H, Ng R, Soeyland T, Davoren M, Phang SM, Akhlaghi H, Fatovich D, Greaves K, Lovegrove M, Mitra B, Kuhn L, Munro A, Anderson N, Egerton-Warburton D, Griffin B, Middleton P, Crilly J, Than M, Wood D, Jordan F, Howell T, Hansen K, Kochar A, Schutz J, Cheng N, Mitchell C, Zhang M, Foong LH, Parameswaran A, Watkins G, Richardson D, Philips N, Yates K, Steinmann K, Costa S, Gaddam R, Teo S, Ghedina N, **Cleophas S**, *Emergency department data to assess the impact of COVID-19 restrictions.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Multiple hospitals across Australia and New Zealand

The response to COVID-19 has led to a "lockdown" of varying degrees across Australia and New Zealand, mostly commencing in late March 2020. This has led to a significant reduction in emergency department (ED) presentations across both countries. Concerns have been raised about delayed presentations of patients and/or delayed assessment and management of those who may have benefited from earlier treatment. Patients who may have previously attended with illnesses better managed in primary care may be staying away. We have a unique opportunity to examine the impact of COVID-19 and its response on various aspects of acute hospital care by using EDs routinely collected administrative and clinical data from many participating hospitals in Australasia between 2017-2020. This is phase 1 of several projects and aims to rapidly obtain administrative data from >45 hospitals to determine the initial impact of COVID-19 response on ED presentations, ED patient flow and effectiveness of care.

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Deane A, Finfer S, Saxena M, Venkatesh B, Chapman M, Thompson K, Bass F, **MacPartlin M, Elgendy A, Sterba M, Davey-Quinn A, Davis M, Jagarlamudi V, Purdon A, Patil M, Costello C**, *Re-Evaluating the Inhibition of Stress Erosions and prophylaxis against gastrointestinal bleeding in the critical ill (REVISE) trial.*

Locations: Wollongong Hospital.

External Partners: Royal Melbourne Hospital, Royal North Shore Hospital, St George Hospital, Royal Adelaide Hospital, Princess Alexandra Hospital, The George Institute for Global Health.

This is a prospective, multicentre, parallel group, concealed, blinded, randomised trial in critically ill mechanically ventilated adult patients to determine the effect of daily intravenous Pantoprazole administration on 90 day mortality and clinically important gastrointestinal bleeding in ICU or resulting in ICU readmission.

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Dennis M, Stedman W, Buscher H, Kruit N, Austin D, Burns B, Dyson S, Southwood T, **Curtis K**, *Resuscitation for Refractory Cardiac Arrest with End-tidal CO<sub>2</sub> and ECMO (RESURRECT Cohort Study).*

Locations: Wollongong Hospital.

External Partners: Royal Prince Alfred Hospital, The University of Sydney, Royal North Shore Hospital, The University of New South Wales, Westmead Hospital, Liverpool Hospital, NSW Ambulance Service, Northern Beaches Hospital.

Over 8000 out of hospital cardiac arrests (OHCA) occur in NSW each year and over 3000 receive cardiopulmonary resuscitation (CPR) attempts. The survival rate for OHCA in NSW is only 12%. Patients who do not obtain return of spontaneous circulation with conventional CPR (CCPR) have abysmal survival rates. New South Wales Ambulance, St Vincent's Hospital and Royal Prince Alfred Hospital, have previously trialled a new bundle of care for OHCA that are refractory to CCPR in the 2CHEER study, with very promising results. This includes the use of ECMO - a mini heart lung bypass machine when patients arrive into the emergency department. We now seek to prospectively analyse the same protocol of expedited transfer to hospital, measurement of End Tidal CO<sub>2</sub> and ECMO for refractory cardiac arrests amongst more sites.



Dennis M, Buscher H, Kruit N, Stedman W, Burns B, McCanny P, Keech T, Dyson S, Oliver M, Roy J, McNulty R, Davis R, **Curtis K**, Facer R, Bendall J, Ware S, Nichols M, Cracknell R, Kushwaha V, Mallows J, **Risi D**, *Efficacy and Value In Expedited out of hospital arrEst care with End tidal CO<sub>2</sub> (ETCO<sub>2</sub>) ECMO CPR (ECPR) - The EVIDENCE Study.*

Locations: Wollongong Hospital.

External Partners: Royal Prince Alfred Hospital, The University of Sydney, The University of NSW, Westmead Hospital, Royal North Shore Hospital, NSW Ambulance Service, Northern Beaches Hospital, Liverpool Hospital, St George Hospital, Blacktown Hospital, Bankstown-Lidcombe Hospital, Concord Repatriation General Hospital, Campbelltown Hospital, Prince of Wales Hospital, Nepean Hospital.

The study will assess the potential benefits of expedited transfer from the scene of an out of hospital cardiac arrest to hospital, where participants receive standard of care at that hospital per current practice. The intervention is expedited transfer.

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**Gales M, Nonu M, Costello C**, *Assessment of potential for organ donation after circulatory death (DCD) in palliative patients with Motor Neurone Disease (MND).*

Locations: Wollongong Hospital.

This project is an assessment of potential for organ donation after circulatory death (DCD) in palliative patients with Motor Neurone Disease (MND). It focuses on the palliative care plans and the circumstances surrounding the deaths of patients with MND. The rationale and the calibrating of such data, will give insight into the implementation of strategies for end of life goals, to enable organ donation to proceed with patients with MND.

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**Huckle R, Curtis K, Binks S, Gardner T, Ashford B, Ryan W**, *Evaluating changes to the trauma team standby response in Wollongong ED.*

Locations: Wollongong Hospital.

This study aims to determine if assessment of Trauma Standby patients solely by the Emergency Medicine team impacts patient and health service outcomes, and results in decreased patient length of stay in the ED plus reduced use of advanced imaging. It also aims to identify any problems and staff satisfaction with the change in practice to ensure sustained compliance and safe practice change.

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**MacLeod S, Curtis K, Beevors M**, *Critical Head Pathway - Team-based approach to streamline care of Emergency Department patients requiring urgent Neurosurgical Intervention.*

Locations: Wollongong Hospital.

Patients with a 'Critical Head' have a time critical brain injury or condition caused by trauma, bleeding or hydrocephalus. The early identification of these patients may expedite the early diagnosis and definitive management of these patients, potentially improving patient outcomes. The aim of the current study is to evaluate the effectiveness of this pathway, by determining whether the 'Critical Head' pathway results in reductions in time to CT and time to theatre as well as secondary outcomes of reduced ICU and hospital length of stay for eligible patients presenting to the Wollongong Emergency Department.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

McQuilten Z, Poole A, Young M, Bellomo R, Power P, Brewster D, O'Connor S, Azad R, Marella P, Barrett J, Morrison L, Winerals J, Tabah A, Reade M, McAllister R, Triplett K, French C, **MacPartlin M**, *International Point Prevalence Study of Intensive Care Unit Transfusion Practices*.  
Locations: Wollongong Hospital.

External Partners: Monash University, The Alfred Hospital, Austin Hospital, Barwon Health, University Hospital Geelong, Cabrini Hospital, Royal Adelaide Hospital, Coffs Harbour Health Campus, Caboolture Hospital, Epworth Hospital Richmond, Gold Coast Hospital, Gosford Hospital, Launceston Hospital, Logan Hospital, Redcliffe Hospital, Royal Brisbane and Women's Hospital, Royal Hobart Hospital, Royal Prince Alfred Hospital, Sunshine Hospital, Footscray Hospital.

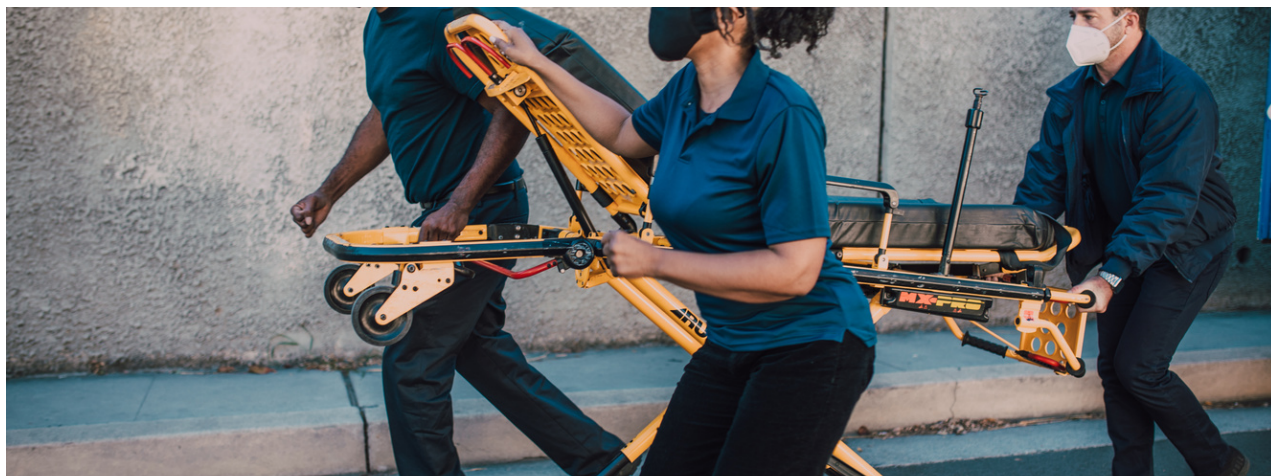
The InPUT study is an international multicentre prospective observational point prevalence study of transfusion practice in ICUs across Australia, Europe, North America and Asia. We will perform the Australian component and collect data from approximately 47 ICUs around Australia over a one- week period in 2021, and our international collaborators will do similar in their respective countries. This research will provide the most comprehensive and up to date understanding of current transfusion practice, alignment with patient blood management guidelines, and areas for practice improvement in ICUs in Australia and New Zealand.

**Mordaunt D**, Wynn MT, Valmuur K, ter Hofstede A, Andrews R, **Davis KJ**, **Nicholas B**, *Identifying trauma patient pathways and processes in the Illawarra Shoalhaven Local Health District through process mining*.

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Queensland University of Technology.

This study aims to discover the range of different care processes undertaken for various cohorts of patients from presentation/admission to patient outcome and discharge from an ISLHD service, and assess the performance of ISLHD health services for these cohorts. It then aims to identify key factors influencing deviance from standard care and service delivery, including patterns indicative of good or poor performance, and then compare actual processes with policy to discover high performing areas as well as those which are under-performing.



**Morris R**, **Bishop K**, *Local themed audits of ANZICS CORE dataset at SDMH*.

Locations: Shoalhaven District Memorial Hospital.

This project will establish a process of periodically auditing admissions to ICU to improve clinical review and motivation of staff that enter data. A series of audits of ICU population subsets will be undertaken. These audits will be around themes such as admission diagnoses, treatments and outcomes and then reported to morbidity and mortality meetings. The data will be extracted from the Australian and New Zealand Intensive Care Society (ANZICS) routine data collection already in place. These audits provide a systematic approach to review and overcome the anecdote bias that can influence case discussions. Providing feedback directly to the staff entering the data can also improve motivation and quality of data entry. Engaging with individual staff to help analyse particular groups can motivate further research and help fulfil trainee training requirements.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

**Outmezguine J, Seth I, Carrillo-Hayley J, Joseph K, Lower K, Curtis K, Derflingher LP, Putnis S, MacPartlin M, History of Mesenteric Ischaemia in a NSW regional health network: The impact of surgical delay on mortality and ICU admission.**

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Center for Health Research Illawarra Shoalhaven Population (CHRISP).

The aim of this project is to perform a retrospective analysis regarding the incidence of acute Mesenteric Ischaemia per year at the ISLHD and examine surgical delay association with mortality and ICU admission over a 20 year period.

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**Partyka C, Berry M, Ferguson I, Asha S, Burns B, Tsacalos K, Gaetani D, Luscombe G, Curtis K, Coelho N, Maytom N, Rijdsijk J, Serratus anterior plane block in addition to protocolised care bundles for patients with rib fractures in the Emergency Department - a prospective cohort study.**

Locations: Wollongong Hospital.

External Partners: Liverpool Hospital, NSW Ambulance, University of New South Wales, Orange Base Hospital, University of Sydney, St George Hospital, Northern Beaches Hospital, The Sutherland Hospital, Campbelltown and Camden Hospitals, University of Western Sydney, George Institute for Global Health.

Pain from rib fractures can splint the chest wall, decreasing the ability to clear respiratory secretions and increasing rates of pneumonia. At present, pain relief options include simple analgesics (paracetamol, ibuprofen), opiates (including morphine and fentanyl). Many of these contribute to in-hospital falls, delirium and are addictive. The serratus anterior block is an ultrasound-guided, regional anaesthesia technique utilising a single-injection method to anaesthetise the chest wall in patients with multiple rib fractures. They are being utilised at increasing rates across emergency departments worldwide. The limited evidence available on these blocks suggests they reduce pain scores and may improve respiratory function. The block has not specifically been investigated in an older population. This study aims to evaluate the effectiveness of an ED-administered, serratus anterior plane block at reducing pain scores in patients with multiple rib fractures following blunt thoracic trauma who are also receiving protocolised rib fracture care.

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**Seth I, Derflingher LP, Outmezguine J, Joseph K, Lower K, Carrillo-Hayley J, McKenzie J, Curtis K, Hip fracture characteristics and outcomes during COVID-19 in the Illawarra Shoalhaven Population.**

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Center for Health Research Illawarra Shoalhaven Population (CHRISP).

This study aims to compare the health and characteristics of patients with hip fractures during the 2020 COVID-19 pandemic to those with past 2 years (2018 – 2019) of hip fractures in Illawarra Shoalhaven population. Studied outcomes include length of hospital stay (LOS), admission to an Intensive Care Unit (ICU), use of mechanical ventilation, in-hospital mortality, time of transfer to hospital ward from Emergency Department, wait times for surgical treatment, 3 months readmission, discharge disposition, cost analysis of management and composite variable of postoperative complications (haemorrhage, urinary tract infections, delirium, deep vein thrombosis, pulmonary embolism, surgical site infection and/or sepsis).

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**Trostian B, Curtis K, McCloughen A, Hirst E, Burns C, Davis W, Presentations, characteristics of and service delivery for women who presented to the Emergency Department with early pregnancy bleeding in Illawarra Shoalhaven Local Health District. A 10 year retrospective study.**

Locations: Wollongong Hospital, Shoalhaven District Memorial Hospital, Shellharbour Hospital, Milton-Ulladulla Hospital.

External Partners: The University of Sydney.

The Emergency Department environment is often overcrowded and chaotic, contributing to excessive pressure on staff and stress for women experiencing early pregnancy bleeding. Limited information is known of the characteristics and presentation trends of women experiencing bleeding in early pregnancy seeking care in the ED. Without this information, it is difficult to identify how best to direct and develop resources in the ED and improve the quality and safety of emergency care.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Young P, Seppelt I, Linke N, Whitehead C, Masters K, **MacPartlin M, Elgendy A, Davey-Quinn A, Sterba M, Purdon A, Davis M, Costello C, Jagarlamudi V, Patil M**, *The Mega Randomised Registry Trials Comparing Conservative vs. Liberal Oxygenation Targets (The Mega-ROX Trials)*. Locations: Wollongong Hospital.  
External Partners: Wellington Hospital NZ, Nepean Hospital, The University of Sydney, The Alfred Hospital, Monash University.

The study is designed to compare two approaches to oxygen therapy in adults requiring mechanical ventilation in the ICU in emergency circumstances. The study compares a conservative approach to oxygen therapy to a liberal approach. This 40 000 participant trial will be conducted in multiple countries and includes innovative design features. This includes linkage to identify enrolled patients in national ICU registries and response adaptive randomisation giving trial participants an increased chance of being assigned to the oxygen regimen associated with the lowest mortality risk while the trial is ongoing.

### GRANTS

**Bradica M, Curtis K, O'Hare A, Binks S, Lo A, Thomas B, Hood L, Rawson S**, *Improving End of Life Care for Patients Presenting to Wollongong Hospital Emergency Department (WH ED): A Mixed Methods Study*. 2021 ISLHD Allied Health, Nursing and Midwifery Grant (\$9,303).

**Curtis K**, Fry M, Considine J, Shaban R, Al Khouri H, McPhail S, Dinh M, Aggar C, Hughes J, Murphy M, *Improving the safety and quality of emergency nursing care*. NHMRC Partnership Grant (\$1,498,877.45).

Dennis M, Buscher H, Kruit N, Stedman W, Burns B, McCanny P, Keech T, Dyson S, Oliver M, Roy J, McNulty R, Davis R, **Curtis K**, Facer R, Bendall J, Ware S, Nichols M, Cracknell R, Kushwaha V, Mallows J, *Efficacy and Value In Expedited out of hospital arrEst care with End tidal CO<sub>2</sub> (ETCO<sub>2</sub>) ECMO CPR (ECPR)- The EVIDENCE Study*. NSW Health Translational Research Grants Scheme (\$992,178).

Fitzgerald, Gabbe, Lannin, Vallmuur, **Curtis K** et al. *PRECISION-TBI – Promoting evidence-based, data driven care for critically ill moderate-to-severe TBI patients*. Medical Research Future Fund Traumatic Brain Injury Mission Grant Opportunity Stream 1 (\$499,816).

Georgiou, Center, Westbrook, Rawlinson, **Curtis K**, Post, Horvath, Hillman, *Establishing a digital health foundation for outcomes-based diagnostic excellence, safety and value*. NHMRC Partnership Projects (\$1,027,500.90).

O'Reilly, Fitzgerald, **Curtis K** et al. *The Australian Traumatic Brain Injury National Data (ATBIND) Project*. Medical Research Future Fund Traumatic Brain Injury Mission Stream 3 (\$366,000).



## 2021 ISLHD RESEARCH ACTIVITY REPORT

### DRUG & ALCOHOL

**Davis S, Cordaro F, Saha M, Qian S, Pados J,** *Blood and demographic profiles of persons undergoing inpatient assisted alcohol detoxification and impact on hospital length of stay and readmission.*

Locations: Illawarra Shoalhaven Local Health District.

Using a retrospective audit of electronic medical records, the study will look at the basic blood profile and demographic data of persons undergoing inpatient alcohol detoxification. A secondary aim is to assess if certain demographics or blood derangements (e.g. anaemia or hypo-albuminemia) are associated with an increased length of stay or readmissions.

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**Grebely J, Dore G, Reid D, Qian S, Graf C, Hampson A, Cordaro F, Pados J, Lautier A, Raikko T, Calnan C,** *A multi-centre, practice-level, stepped wedge cluster randomized controlled trial to compare point-of-care HCV RNA testing, dried blood spot testing, and standard of care to enhance treatment uptake among people with HCV who have recently injected drugs attending needle and syringe programs: the TEMPO study.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Kirby Institute, The University of New South Wales, St Vincent's Hospital Sydney.

This research project will compare three methods of screening for hepatitis C virus (HCV) in adults with a history of recent injecting drug use at Needle and Syringe Programs (NSP) and evaluate the impact of each on hepatitis C treatment uptake. The study will compare, standard of care versus point-of-care versus dried blood spot HCV testing.

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**Kelly P, Adams S, Lunn J, Berry J, Bliokas V, Qian S,** *Feasibility and preliminary efficacy of Cognitive Remediation Groups in a community outpatient setting for people who have substance dependence.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong.

The purpose of the current project is to examine the feasibility and preliminary effectiveness of the Alcohol and other Drugs Cognitive Enhancement (ACE) Cognitive Remediation Groups for people attending outpatient treatment for methamphetamine use. Feasibility will be measured by interest in the program, percentage recruitment rates into the study, program completion rates, participant satisfaction/acceptability, study retention and intervention fidelity. Semi-structured interviews will be used to explore the features of the Cognitive Remediation Groups that participants found most/least effective. The project also seeks to identify the preliminary efficacy of the ACE Cognitive Remediation Groups.

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**Seddon S, Qian S, Cowman J,** *Describing the pregnancy outcomes of SUPPS clients who identify methamphetamine as the primary substance of concern.*

Locations: Illawarra Shoalhaven Local Health District.

There is no current knowledge about the pregnancy outcomes for Substance Use in Pregnancy and Parenting Service (SUPPS) clients in the ISLHD who disclose methamphetamine as the primary substance of choice. There is no current model of care for the assessment and treatment of the infant at risk of withdrawal from methamphetamine. This project therefore aims to describe the pregnancy outcomes of ISLHD SUPPS clients whose primary substance of concern is methamphetamine.

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**Woods D, Bowles K, Qian S, Whiting R, Larance B, Nguyen N,** *Accessing support services: Perceptions and experiences of carers and family members who are affected by someone else's drug or alcohol use.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong, Family Drug Support NSW.

The negative impacts of drug or alcohol use on the family unit are well documented, yet treatments tend to be client focused, with care partners including families receiving little attention. These significant others often experience heightened levels of anxiety, depression and a higher care-giving burden, and commonly report feeling helpless and isolated. This study aims to understand the perceptions and experiences in information-seeking and help-seeking of care partners who are affected by someone else's drug or alcohol use.

### GRANTS

Dunlop A, **ISLHD Drug & Alcohol Service**, *How does long-acting depot buprenorphine impact the high-risk post-release period for people with opioid dependence?* NSW Health Translational Research Grants Scheme (Round 5) (\$798,652).

Kelly P, **Adams S, Qian S**, *Feasibility and preliminary efficacy of Cognitive Remediation Groups in a community outpatient setting for people who use methamphetamines*. NCCRED (National Centre for Clinical Research on Emerging Drugs) Seed Funding Grants (\$74,738).

McKetin R, **Reid D, Sinclair B**, *A Phase III Randomised placebo-controlled Trial of Mirtazapine as a pharmacotherapy for methamphetamine ("Ice") dependence*, NHMRC Medical Research Future Fund (\$4,899,580).

Mills L, Lintzeris N, **Reid D**, *Using electronic medical records to examine the effects of Amphetamine-Type-Substance use on clinical outcomes among clients receiving opioid agonist treatment*. NCCRED (National Centre for Clinical Research on Emerging Drugs) Seed Funding Grants (\$42,536.78).

**Seddon S**, *Eat Sleep and Console: an alternative model of care for the assessment and care of the newborn at risk of withdrawal*. NSW Health Nursing and Midwifery Strategy Reserve Funding (\$15,000).

**Woods D, Adams S, Qian S**, *Evaluation of video-based information for families and friends of people with alcohol and other drug use concerns*. ADF (Alcohol and Drug Foundation) Information and Support for Family and Friends (\$54,171.01).

### KIDS & FAMILIES

Gould G, Jobling J, Manton J, Perkes SJ, Smith R, Cadet-James Y, Clarke M, Oldmeadow C, Clough A, Carson K, Reath J, Gruppetta M, Bonevski B, O'Mara P, Zeev YB, Bittoun R, Atkins L, Cowling B, Bovill M, Boydell K, Mattes J, Searles A, Doran C, de Quieroz Andrade E, Oncken C, **Stuhl E**, *iSISTAQUIT (implementation phase of the Supporting Indigenous Smokers To Assist Quitting project): provision of training and materials to aid health professionals/organisations to support smoking cessation for Indigenous women during pregnancy*.

Locations: Illawarra Shoalhaven Child & Family Community Health (Binji & Boori).

External Partners: The University of Newcastle, Aboriginal Community Controlled Health Services.

The SISTAQUIT training intervention is an evidence-based, culturally appropriate, multi-component intervention to improve health providers' provision of smoking cessation care to pregnant Aboriginal and Torres Strait Islander women. The implementation of SISTAQUIT comprises eLearning training and resources for GPs, Aboriginal Health Workers, midwives and nurses. The National Social Media Campaign will be driven by a Social Media Committee comprising Aboriginal community members and organisations as well as expertise in the field and provides a unique opportunity for Aboriginal health services to be involved in developing local video content in language

**Hewitt L, Okely T, Frohmuller C, Wen L-M, Davis KJ, Eyles M, Fischer O**, *Effect of a multi-component intervention in post-natal mother's groups on meeting the Physical Activity Guideline for infants. A group randomized controlled trial*.

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong, Sydney Local Health District.

A group randomised controlled trial to determine the efficacy of a multi-component intervention incorporating WhatsApp® and group tummy time classes in post-natal mothers' groups, on infant physical activity levels (tummy time). This will be accomplished by training Early Childhood Nurses (ECHN) to deliver an evidence-based intervention to mothers and their infants attending local post-natal mother's groups. This work aligns with the "First 2000 days" framework which is one of the priorities for the NSW Health Translational Research Grants Scheme. Mothers in the intervention group will be informally educated about the benefits of tummy time, positions, setting aside time and equipment, and control group will receive usual care.





**Legge A, Haggie S, Srivastava T, Wells A, Neonatal hypoglycaemia: An audit to describe trends in identification, management and outcomes in the Illawarra Shoalhaven Region.**

Locations: Wollongong Hospital, Shoalhaven District Memorial Hospital.

Data analysed in this study will provide information on screening, identification and management trends over the study period and outcomes of infants with hypoglycaemia. It will also assess the utility of the current guideline, as well as aim to compare World Health Organisation growth charts to customised growth charts in identifying the at risk neonate. Information gained from this audit will guide future policy development, to ensure neonates at risk of hypoglycaemia are appropriately identified and managed.

**Melwani P, Haggie S, Davis KJ, Evaluating APGAR Scoring and Outcomes of Neonates with APGARs less than 7 at 5 minutes.**

Locations: Shoalhaven District Memorial Hospital.

This project aims to identify whether there is a significant association between the APGAR score calculated and the arterial cord gas collected at time of birth, which is an objective measure which can be used to reflect acute stress on the newborn prior to delivery.

**Oei JL, Themakis T, Kunjunju A, Seddon S, Marjoribanks C, Stephens S, Qian S, The Neurology of NAS Early detection of neurocognitive problems in children exposed to intra-uterine Drugs of addiction.**

Locations: Wollongong Hospital.

External Partners: The Royal Hospital for Women, The University of New South Wales.

Maternal drugs have the potential to impair infant brain development and function. Many of these babies look "normal" at birth but may develop serious problems, including cerebral palsy, low IQ and attention and behavioural issues. This project aims to conduct an observation called "general movements" (GM) which is an effective screening tool for cerebral palsy in high risk (e.g. preterm) babies. The parent/guardian will make a 20 min video and send this to a qualified GM assessor that is unaware of the infant's drug exposure history. The infant will be followed to 2 years of age to see if any neurological problems develop. Intervention and treatment will be offered if they do.

**Spangaro J, Hanley N, Finlay S, Kor K, Payne J, Allan J, Simpson H, Fabrianesi B, Claridge J, Fuller J, Brown M, Bosevski R, Access to and engagement with services for Sexual Safety for children and young people with problematic and harmful sexual behaviour (AccESS).**

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong, Western Sydney Local Health District.

Commissioned by the Ministry of Health (MoH), this research responds to the Royal Commission's recommendation for improving service accessibility and engagement for children and young people (0 to 17 years) with problematic and harmful sexual behaviour. The qualitative interviews will develop understandings of enablers and barriers to access and engage with services for problematic and harmful sexual behaviour, and, identify gain and pressure points during service referral and engagement processes. Research findings will contribute to the current program of work undertaken by the MoH to develop an evidence-based framework for improving prevention, early intervention and therapeutic responses to children and young people with problematic and harmful sexual behaviour, and their families. Findings of this study will also be incorporated into education resources that aim to normalise help-seeking, increase understandings of problematic and harmful sexual behaviour, and inform culturally safe practice.

### GRANTS

Spangaro J, Hanley N, Finlay S, Kor K, Payne J, Allan J, Simpson H, Fabrianesi B, **Claridge J**, Fuller J, *Access to and engagement with services for Sexual Safety for children and young people with problematic and harmful sexual behaviour (AccESS)*. NSW Ministry of Health (\$349,114.21).

### MATERNITY & WOMEN'S HEALTH

**Hofstee P, Mulholland B, Davis W**, Kelly M, **Curtis K**, *Maternal and neonatal outcomes of pregnancies complicated by living during the COVID-19 pandemic in the ISLHD*.

Locations: Wollongong Hospital.

External Partners: Center for Health Research Illawarra Shoalhaven Population (CHRISP), University of Wollongong.

This study aims to determine if there is increased risk of aberrant maternal and neonatal health outcomes in pregnancies complicated by living during the time of the COVID-19 pandemic relative to a non-COVID-19 population.

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Lyons S, Shand A, Nassar N, Pereira G, **Davis W**, *Application of a stillbirth risk calculator*.

Locations: Wollongong Hospital, Shoalhaven District Memorial Hospital.

External Partners: Royal Hospital for Women, The University of Sydney, Curtin University.

The project will use retrospective de-identified data from the hospital database (eMaternity) in maternity hospitals in South Eastern Sydney Local Health District (SESLHD) and the Illawarra Shoalhaven Local Health District (ISLHD). Data will be entered into a stillbirth calculator to determine if the calculator can determine risk of stillbirth.

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Passey M, Barnes L, Paul C, Bonevski B, Atkins L, Bailie R, Longman J, Pearce A, Barker D, Milat A, Cashmore A, Scarfe J, **Griffith J**, *MOHMQuit: Midwives and Obstetricians Helping Mothers to Quit a cluster-randomised stepped-wedge trial*.

Locations: Shoalhaven District Memorial Hospital, Wollongong Hospital.

External Partners: The University of Sydney, The University of Newcastle, Flinders University, University College London UK, NSW Ministry of Health.

Smoking is the most important preventable cause of negative pregnancy outcomes. These outcomes are reduced if pregnant women stop smoking. Unfortunately, delivery of quitting support by health care professionals is currently poor. This project will trial an innovative program, MOHMQuit, which uses a whole-of-system approach to improve support provided to pregnant smokers and thus increase quitting among this critical group.

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Roscioli T, **Davis W**, Smoleniec J, Shand A, Hyett J, Berman Y, Wilson M, Warwick L, **Dikshit S**, *PreGen: Filling the Gap - Antenatal Genomics and Newborn Care. The Translational PreGen Consortium*.

Locations: Wollongong Hospital.

External Partners: Liverpool Hospital, Royal Hospital for Women, Royal Prince Alfred Hospital, Royal North Shore Hospital, Westmead Hospital, The Canberra Hospital.

The prospective national project (PreGen) assesses utility of prenatal genomic testing to diagnose early and improve neonatal intensive care (NICU) management. It is a significant opportunity to create rapid diagnostic teams, understand better genetic disease in babies and how they relate to ultrasound phenotypes. Health economic benefits of genomic results before transfer of babies to NICU will be assessed. Outcomes are a) development of Australian prenatal rapid genomic testing care standards and national laboratory accreditation b) health economic utility of early genomics c) understanding human malformation biology and d) creating industry/academic partnerships to gain knowledge of childhood diseases, their causes and treatments.

### MEDICINE

#### CARDIOLOGY

Hillis G, Yong G, McQuillan B, Chow C, Myles P, Marwick T, Selvanayagam J, **Danson E, Mackay S**, *A Randomised Controlled Trial of Early valve replacement in severe ASymptomatic Aortic Stenosis (EASY-AS)*.

Locations: Wollongong Hospital.

External Partners: Royal Perth Hospital, University of Western Australia, WA Health East Metropolitan Health Service, Fiona Stanley Hospital, The Mount Hospital, Sir Charles Gardiner Hospital, The University of Sydney, The Alfred Hospital, Baker Heart and Diabetes Institute, Flinders University, Flinders Medical Centre.

Aortic stenosis (AS) is a common life-threatening condition in which one of the heart valves becomes narrowed over time. People with severe AS take years to develop symptoms, including shortness of breath, chest pain, or even sudden death. Some patients may never develop symptoms. Heart surgery is a good treatment for symptomatic patients but can cause complications and lead to prolonged recovery. The dilemma is: should we operate in everyone with severe AS to avoid the risk of heart failure and death or wait until symptoms develop to spare patients of unnecessary surgery? This study will reveal whether patients with severe AS but no symptoms are better managed by early valve replacement rather than waiting for symptom development and which strategy is more cost effective.

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**McLean C, Sepahpour A**, *VT/VT Presentations to Wollongong Hospital - A retrospective study of patient details on presentation and prognosis/outcome*.

Locations: Wollongong Hospital.

Out of hospital cardiac arrest is a common presentation for individuals who have ventricular tachycardia or ventricular fibrillation. At present there is very little evidence to guide initial treatment given the heterogeneous nature of individuals. The main management options are either interventional or pharmacological. The aim of this research is to identify patient characteristics on presentation that can be used to guide specific management early in their admission.

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Ooi S-Y, Lovell N, **Shetty P**, Vaughan B, **Mackay S**, **Norman S**, **Moragues J**, **Mohd Zaki NI**, *TeleClinical Care Cardiac: Efficacy and safety of adjunctive virtual models of care in the secondary prevention of cardiovascular events*.

Locations: Wollongong Hospital.

External Partners: The University of New South Wales, Prince of Wales Hospital, St George Hospital, Royal North Shore Hospital, Coffs Harbour Health Campus, Port Macquarie Base Hospital, Liverpool Hospital, St Vincent's Hospital Sydney, The George Institute for Global Health.

The TeleClinical Care (TCC) Cardiac Study is a multi-centre, pragmatic, open-label interventional study designed to examine the comparative effectiveness of a novel telehealth smartphone application in patients who have recently been discharged from hospital after experiencing an acute cardiac event. The primary objective of this study will be to determine if use of this system as an adjunct to usual care will decrease the rate of hospital readmission, as well as improve patient quality life and reduce repeated cardiac events by targeting risk factors. Patients are allocated to one of three cohorts and the characteristics of each cohort will be examined in a secondary analysis to examine whether specific risk factors predicate the magnitude of benefit associated with the various levels of the intervention.

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Ooi S-Y, Jorm L, Blake V, **Mordaunt D**, **Lee A**, *Cardiac Analytics and Innovation (Cardiac AI) Research Repository*.

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Prince of Wales Hospital, The University of New South Wales, Eastern Heart Clinic.

This project aims to establish a cardiac research data repository of hospital electronic medical record (EMR) data that is linked to other state and national health data sets in order to produce a comprehensive and robust cardiac data set that will allow advanced analytics such as machine learning to improve patient care and outcomes.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Patel S, Celermajer D, Keech A, Sullivan D, Vaidya K, Jacob J, **Lee A, Norman S, Zaki N, Shetty P**, *The COLCARDIO-ACS Study - Colchicine Cardiovascular Outcomes in Acute Coronary Syndrome Study - A randomised clinical trial.*

Locations: Wollongong Hospital.

External Partners: Royal Prince Alfred Hospital, The University of Sydney, NHMRC Clinical Trials Centre.

The aim of this study is to assess the effect of long-term, low-dose, regular Colchicine plus optimal medical therapy (OMT) versus placebo plus OMT, in patients post-Acute Coronary Syndrome (ACS) with biochemical markers of persistent coronary inflammation, measured 4 to 6 weeks after the ACS event if the patient has been discharged from an acute hospital ward.

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**Shetty P, Jaffar N, Shaw L, Elison B, Mohd Zaki N, Lee A, Norman S, Clingan E, Swainson I, Shen L, Chan L, Gray B**, *Diagnostic utility of paired myocardial perfusion scans and coronary calcium score in low to intermediate risk chest pain.*

Locations: Wollongong Hospital.

This is a registry-style database of assessing paired utility of myocardial perfusion study (MPS) or heart stress test and coronary artery calcium scores or the burden of atherosclerotic plaques in blood supply of the heart (CACS) together with cardiovascular risk factors in predicting significant coronary artery disease or incidence of major cardiovascular events in 1-, 3- and 5-years.



## DIABETES & ENDOCRINOLOGY

Bergman P, Selvaraj G, Jeyachanthiran K, **Martin M, Nicholls N**, *Australasian Diabetes Data Network (ADDN).*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Monash Health, John Hunter Children's Hospital, The Children's Hospital at Westmead, St George Hospital, Westmead Hospital, Blacktown and Mt Druitt Hospital, Bankstown-Lidcombe Hospital, Liverpool Hospital, Campbelltown Hospital, Queensland Children's Hospital, Mater Hospital Brisbane, Ipswich Hospital, The Women's and Children's Hospital SA, Lyell McEwin & Modbury Hospitals, Flinders Medical Centre, The Royal Melbourne Hospital, St Vincent's Hospital Melbourne, Western Health & Sunshine Hospital, The Royal Children's Hospital Melbourne, Barwon Health, Ballarat Health, Bendigo Health, Peninsula Health, Perth Children's Hospital, Fiona Stanley Hospital, Canberra Hospital, Tasmania North West Regional Hospitals, Monash Children's Hospital.

ADDN provides a secure and centralised data repository for the collection of longitudinal demographic and clinical data for people with diabetes from diabetes centres across Australia and New Zealand.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

Francois M, **Bastian B**, Smithers L, **Webb A**, *Exploring the effectiveness of insulin therapy in preventing maternal and neonatal adverse outcomes in women with Gestational Diabetes Mellitus (GDM).*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong.

This project will analyse data from women diagnosed with diabetes in pregnancy from 2013-2019 to compare mother and baby outcomes from women treated with insulin compared to diet. Factors such as body mass index (weight vs height), age, weeks at diagnosis and weeks when insulin treatment was started will also be compared.

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**Gilet A, Martin M, Kennedy M, Natrass N, Pape A, Sullivan E**, *Meditation in Gestational Diabetes Mellitus (GDM).*

Locations: Illawarra Shoalhaven Local Health District.

This project aims to explore the effects that a daily practice of meditation has on glucose levels in women with gestational diabetes. Quality of life measures such as stress, anxiety and feelings of well-being will also be recorded



## GASTROENTEROLOGY

Moore G, **Rogge C, Lee T, Robinson S, Leighton C**, *A Phase 3, Multicenter, Randomized, Efficacy Assessor-Blinded study of Risankizumab Compared to Ustekinumab for the Treatment of Adult Subjects with Moderate to Severe Crohn's Disease who have failed anti-TNF therapy.*

Locations: Wollongong Hospital.

External Partners: Monash Health.

This study is being conducted to compare the efficacy and safety of risankizumab versus ustekinumab for the treatment of adult subjects with moderate to severe Crohn's Disease who have failed anti-TNF (Tumour Necrosis Factor) therapy.

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Nash E, Strasser S, **Duong T, Humphris J**, *Drug-induced liver injury from anabolic-androgenic steroids and selective androgen receptor modulators: an Australian case series.*

Locations: Wollongong Hospital.

External Partners: Royal Prince Alfred Hospital, The University of Sydney.

This project will look at the number of people who have had liver damage due to taking anabolic steroids or similar drugs, which are commonly taken as bodybuilding supplements. It will also look at what tests they had and their outcomes.

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**Perananathan V, Valiozis I, Early W**, *Abdominal Computed Tomography (CT) in patients diagnosed with viral and bacterial gastroenteritis: Does CT abdominal imaging alter management?*

Locations: Wollongong Hospital.

This project aims to retrospectively analyse patients diagnosed with gastroenteritis, and evaluate those who received abdominal CT scans, and whether having this scan changed management, increased length of stay, resulted in endoscopic intervention, whether endoscopic intervention changed management, and whether there was an increased risk of CT-related complications.

## INFECTIOUS DISEASES

Davis J, Sud A, Dotel R, O'Sullivan M, Foo H, **Ghosh N**, McKew G, Gray T, Paterson D, Smith S, Holmes N, Rogers B, Robinson JO, Davies J, Aganostou N, Runnegar N, Tramontana A, **Morton M**, *Impact of evidence-based quality-of-care processes gained from clinical trial participation on management and outcome of methicillin-resistant Staphylococcus aureus bacteraemia (CAMERA2 case-control retrospective study).*

Locations: Wollongong Hospital.

External Partners: John Hunter Hospital, Menzies School of Health Research, Nepean Hospital, The University of Sydney, Blacktown Hospital, Westmead Hospital, University of Melbourne, Liverpool Hospital, Concord Repatriation General Hospital, University of Queensland, Royal Brisbane and Women's Hospital, Cairns Hospital, Austin Health, Monash University, Monash Medical Centre, Royal Perth Hospital, Royal Darwin Hospital, Flinders Medical Centre, Princess Alexandra Hospital, Western Health.

This retrospective case-control study aims to compare clinical outcomes (i.e. mortality) and adherence to quality-of-care processes (QCPs, e.g. follow-up blood cultures, echocardiography, infectious disease specialist consultation, etc.) between clinical trial participants (cases) versus non-clinical-trial patients (controls). The cases will be participants of our recently concluded Combination Antibiotic Therapy for Methicillin Resistant Staphylococcus Aureus infection (CAMERA 2) trial. The controls will be Methicillin Resistant Staphylococcus aureus (MRSA) bacteraemia patients from CAMERA2 sites NOT enrolled into the CAMERA2 trial. We hypothesise that CAMERA2 participants have better outcomes compared with controls due to improved adherence to QCPs.

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**Ghosh N, Fernandez L, Jones A, Newton P, Handley B, Cuenca J**, *Epidemiology, Clinical Characteristics and Pulmonary Function Status of Patients Recovered from SARS-CoV-2 Infection.*

Locations: Wollongong Hospital.

The primary aim of this project is to define the long term clinical impact of COVID-19 on respiratory function. In addition, we will assess the impact of SARS-CoV-2 infection on patients' psychosocial and functional status.

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Slavin M, Coussement J, Teh B, Chen S, Van Hal S, Beardsley J, Smibert O, Heath C, Morrissey O, Crowe A, Kennedy K, Smith B, Tramontana A, Korman T, Alcorn K, Chean R, O'Kane G, David J, Bartolo C, Bloch A, Mahony A, Cooley L, Roberts M, Lynar S, **Crawford S, Pratt W**, *Presentation, management and outcome of Cryptococcus infections: a multicentre retrospective study focusing on patients without HIV infection.*

Locations: Wollongong Hospital.

External Partners: The Royal Melbourne Hospital, Westmead Hospital, Prince of Wales Hospital, Fiona Stanley Hospital, Royal Perth Hospital, The Alfred Hospital, St Vincent's Hospital Melbourne, ACT Pathology, Canberra Health Services, Eastern Health Victoria, Monash Health, Peter MacCallum Cancer Centre, Gosford Hospital, Gold Coast Hospital and Health Service, Royal Prince Alfred Hospital, Western Health Victoria, La Trobe Regional Hospital, Wyong Hospital, University Hospital Geelong, Bendigo Health, NSW Health Pathology, John Hunter Hospital, Ballarat Health Services, Royal Hobart Hospital, Royal Adelaide Hospital, Flinders Medical Centre, Royal Darwin Hospital, Palmerston Hospital, The University of Melbourne.

Cryptococcosis is one of the most common and deadly opportunistic infections in people living with HIV. In medically developed countries, the incidence of cryptococcosis has greatly decreased since the 1990s, following the widespread use of highly active antiretroviral therapy in people living with HIV. In contrast, patients with other forms of immunosuppression are increasingly being recognised as vulnerable to Cryptococcus, including transplant recipients, other patients receiving immunosuppressive therapy, and cancer patients. This is a multicentre retrospective study focusing on Cryptococcus infections in patients without HIV infection, with the intention to describe the epidemiology, presentation, management and outcomes of cryptococcosis in these patients.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Sud A, Davis J, Cheng A, Peel T, Tong S, Gilroy N, Patterson D, Gray T, Marriott D, **Shum O, Crawford S, Adams N, Eyles M**, *Vertebral Osteomyelitis Baseline Assessment and Treatment (VOMBAT)*.

Locations: Wollongong Hospital.

External Partners: Nepean Hospital, John Hunter Hospital, The Alfred Hospital Melbourne, The Royal Melbourne Hospital, Westmead Hospital, The Royal Brisbane and Women's Hospital, Concord Repatriation General Hospital, St Vincent's Hospital Sydney.

Spinal infection (including vertebral osteomyelitis, discitis and epidural abscess) remains an uncommon condition which is difficult to diagnose but a potentially devastating infectious disease. Delays in diagnosis can lead to irreversible neurological deficits, persistent pain and death. Vertebral osteomyelitis (VOM) accounts for approximately 2-7% of all cases of osteomyelitis. In recent years a rise in the incidence of pyogenic spinal infection has been reported in many institutions. Some of the apparent increase in incidence may be due to enhanced detection through improved imaging technology, especially magnetic resonance imaging. This study therefore aims to 1) describe the presentation, diagnostic and management strategies, and outcomes adults with pyogenic vertebral osteomyelitis; and 2) estimate the burden of disease and costs of managing patients presenting with VOM.

### MEDICAL IMAGING

**Glenn D, Hewitt L, Seth I**, *The incidence of head injuries at time of neck of femur fracture and the role of CT brain scans*.

Locations: Wollongong Hospital.

This study is looking to determine the incidence of head injuries alongside with neck of femur fractures, including the role that CT brain scans may have as an appropriate investigation for such patients.



### RENAL MEDICINE

**Chen JHC**, Boudville N, ANZDATA Peritoneal Dialysis Working Group, *Temporal trends and peritoneal dialysis outcomes of low GDP peritoneal dialysis solutions in Australia and New Zealand*.

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Western Australia.

This study aims to examine the association between Peritoneal Dialysis (PD) solutions and PD peritonitis, technique failure, all-cause mortality, and cause-specific mortality using ANZDATA registry. The findings from this study will provide more insight into PD prescription in Australia and New Zealand and improve our understanding of the long term clinical outcomes in patients receiving low GDP PD solutions, which may assist clinicians in selecting the appropriate PD solutions and catheters for kidney failure patients on peritoneal dialysis.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

**Hassan HIC, Chen J, Murali K**, *An ANZDATA study examining peritonitis as a risk factor for cardiovascular mortality along with annual trends of peritonitis episodes and cardiovascular mortality from 2003- 2019.*

Locations: Illawarra Shoalhaven Local Health District.

Patients on peritoneal dialysis (PD) are at a high risk of cardiovascular death. An episode of infection is a risk factor of cardiovascular death in this population. Patients on PD are at risk of peritonitis. Studies previously examining the risk of cardiovascular death following a peritonitis episode have been done but were flawed. This study seeks to examine a national dialysis registry (ANZDATA) in order to understand the risk of cardiovascular death following a peritonitis episode in this high risk group. It also aims to examine peritonitis trends annually and see how this compares to cardiovascular mortality trends.

**Pedagogos G, Chen J, Foote C, Badve S, Shen Y, Holt J**, *A randomized, double-blind, placebo-controlled, parallel-group, multicenter Phase 3 study to investigate the efficacy and safety of finerenone, in addition to standard of care, on the progression of kidney disease in patients with Non-Diabetic Chronic Kidney Disease.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Western Health Victoria, Eastern Health Victoria, Concord Repatriation General Hospital, St George Hospital.

This study will investigate the efficacy and safety of finerenone on the progression of non-diabetic chronic kidney disease in comparison to placebo, in addition to standard of care. The main objective is to demonstrate that finerenone in addition to standard of care may delay the progression of kidney disease. The study also aims to explore the changes in chronic eGFR slope decline over time of finerenone treatment vs Placebo.

## RESPIRATORY MEDICINE

**Jones A, Wen K**, *The Wollongong Hospital Virtually enhanced Respiratory Care with Short Term Oxygen Therapy Pilot Study.*

Locations: Wollongong Hospital.

This pilot study aims to shift the last one to two days of a patient's hospital stay into the home setting through the use of virtual care. The study population will be inpatients with exacerbations of chronic obstructive pulmonary disease. The hospital nursing and interventions will be shifted into the home setting with vital sign monitoring and nursing will be provided through the virtually enhanced community care service. Supplemental oxygen therapy (if required) that would be provided in hospital will be provided through oxygen concentrators in the patient's home. The patients will be on medications that they will be able to self administer. The aim of the pilot study is to determine if this management strategy is safe and feasible. It is hypothesized that there will be cost savings to the hospital system by decreased length of hospital stay.

## RHEUMATOLOGY

**Loganathan A, Siva Das A, Raman A, Naveed A, Riordan J**, *Concordance of temporal artery biopsy in Giant Cell Arteritis.*

Locations: Wollongong Hospital.

The aim of the project is to determine the concordance rate of bilateral temporal artery biopsies in patients with giant cell arteritis. It will be a retrospective review of patients who have had a positive temporal artery biopsy in The Wollongong Hospital, who will be compared to a randomly-selected matched control group who have had negative temporal artery biopsies. From examining this data, the negative predictive value of biopsies will be determined, as well as prevalence of medical and surgical complications.

## GRANTS

Ooi S-Y, Jorm L, Gallego Luxan B, Yu J, Blake V, Farrow J, Do TXH, Kennedy G, Aguilera JQ, **Mordaunt D, Lee A**, *CardiacAI: Deep learning to predict and prevent secondary cardiovascular events.* NHMRC Cardiovascular Health Mission MRFF (\$544,978.65) and UNSW Big Ideas Seed Grant (\$150,000).



### MENTAL HEALTH

**Croaker K, Broyd S, Feros D, Fitzgerald Z, Gilchrist M**, *Improving Patient Outcomes Post-Stroke: A randomised controlled trial of combined Cognitive Rehabilitation and Psychological Intervention.*

Locations: Port Kembla Hospital.

This study aims to evaluate the effectiveness of a combined 6 week cognitive rehabilitation and psychological intervention delivered via Telehealth in improving patient outcomes post-stroke in a pragmatic randomised wait-list controlled trial. It is expected that the proposed intervention will improve patients' cognition, psychological wellbeing, functional abilities and Quality of Life.

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**Molloy L, Tshuma S**, *Minimising the use of seclusion and restraint in acute mental health units through 'Six Core Strategies'.*

Locations: Illawarra Shoalhaven Local Health District Mental Health Services.

External Partners: The University of Wollongong.

The aim of this research is to evaluate the impact of the implementation of a seclusion reduction intervention, 'Six Core Strategies', on the practice of seclusion and restraint in three acute mental health units in the ISLHD mental health service.

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**Pai N, de Souza P, Thomas S, Ivers R, Vella S-L**, *An exploratory study of the impact of utilising medical students as part of a medical workforce during COVID in Australia.*

Locations: Wollongong Hospital.

External Partners: University of Wollongong.

This study aims to investigate the impact of employing senior medical students as medical assistants for a surge workforce during the COVID-19 pandemic in Australia. Specifically this study aims to assess the impact on the individual students in comparison to their peers who do not undertake the medical assistants program. Further the impact on the performance of the health system will also be assessed.



**Searle K, Grenyer B, Townsend M**, *Identification of Opportunities for Family Focussed Recovery in a Community Mental Health Setting.*

Locations: Illawarra Shoalhaven Local Health District Mental Health Services.

External Partners: University of Wollongong.

This project aims to: 1) Identify mental health consumers' children at the Illawarra Community Mental Health (ICMH) Service, the needs of these children, parenting support needs and how these are currently serviced and documented; 2) explore barriers/opportunities to embed Family Focussed Recovery (FFR) routinely in clinical care; 3) undertake a strengths-based approach to determine capabilities/challenges of FFR practice and build capacity; and 4) promote inclusion of the consumer voice via involvement of Peer Worker (consumer parent lived experience) in audit tool design, interview consultations and planning for strategies and education.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Win K, **Sneddon J, Bunder D**, Vlahu-Gjorgievska E, *Usability of Teacher's Guide Website for the Primary School Teachers.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: The University of Wollongong.

The aim of this project is to evaluate the usability of "Teacher's Guide" for primary school children, exploring the users' opinion related to the online resources and its effectiveness. The Teacher's Guide website is created for the class room and support teachers assessment for health and wellbeing of students. Study objectives are to identify the user perspectives of the Teachers' Guide resource; to identify perceived ease of use, usefulness, satisfaction and intention to use and to explore the effectiveness of the guide.

### GRANTS

**Alcorn D**, Townsend M, **Ashford B**, Grenyer B, Brown J, Wallace G, McCaul M, Sayyar S, *Biomarker and ambulatory real-time monitoring of suicidal risk: a feasibility study.* 2021 IHMRI Clinical Translation Grant (\$20,000).

**Croaker K, Broyd S, Fitzgerald Z, Feros D, Gilchrist M**, *Improving Patient Outcomes Post-Stroke: A randomised controlled trial of combined Cognitive Rehabilitation and Psychological Intervention.* 2021 ISLHD Allied Health, Nursing & Midwifery Research Grants (\$9,636).

**Searle K**, Grenyer B, Townsend M, *Identification of Opportunities for Family Focussed Recovery in a Community Mental Health Setting.* NSW Ministry of Health Family Focussed Recovery Implementation Grant (\$9,500).

Townsend M, **Pai N, Alcorn D, McAlister B**, *Early Intervention: Knowledge and resources to improve educational outcomes for students requiring multi agency support for mental health and well-being.* NSW Department of Education Strategic Research Fund (\$174,788.00)

### NON-CLINICAL

**Milosavljevic M, Fish J, Hewitt L, Cuenca J**, *End-User Evaluation of the Ethics and Governance Process for Low and Negligible Risk Research Projects within NSW Local Health Districts.*

Locations: Illawarra Shoalhaven Local Health District.

This project will survey all the end users within the NSW public health institutions, with regards to their level of satisfaction with their current LNR process. For this project the end users are defined as the NSW Public Health employees who had undertaken the research within the last two years.



### NURSING & MIDWIFERY

*Some projects undertaken by Nursing & Midwifery staff have already been listed under their principal clinical stream. Their delineation into these clinical groups as opposed to Nursing & Midwifery directly serves to illustrate the dedicated work put into research by nurses and midwives.*

Catling C, Mou H, White L, Rifaie A, Farrell K, Hay A, Clair D, Phipps H, Dunphy C, De Vroome M, Bulmer M, Rehayem A, **Reid F**, *Group Clinical Supervision for midwives in Sydney.*

Locations: Wollongong Hospital.

External Partners: University of Technology Sydney, Auburn Hospital, Blacktown Hospital, Bankstown Hospital, Campbelltown Hospital, Fairfield Hospital, Liverpool Hospital, Royal Prince Alfred Hospital, Canterbury Hospital, Royal North Shore Hospital, St George Hospital, Sutherland Hospital.

This study is a cluster randomised controlled trial. It will recruit 12 maternity sites in Greater Sydney, six of which will have the intervention of monthly Clinical Supervision (CS) sessions for midwives, and six will not. The CS sessions will span 18 months - 2 years, and data will be collected on midwives burnout levels, their perceptions of workplace culture and their intentions to remain in their job/profession. Data will also be collected from all sites in relation to how many midwives exit the organisation during the study period.

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**Wilson V, Dawes E, Hewitt L, Bliokas V**, *A mixed methods enquiry into considerations of patients' cognitive capacity in clinicians' decisions when prescribing lower limb prosthetic rehabilitation.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: The University of Wollongong.

This project is to investigate the perceptions of the role of cognition in amputee rehabilitation from a variety of multidisciplinary team members, and to then establish, with the same multidisciplinary team members, a pathway for the assessment of cognition in amputee patients that will meet the minimum care standards.

### GRANTS

**Bastian B, Francois M, Schoenaker D, Webb A, Moses R, Martin M, Kennedy M, Davis W, Scholeir M, Logan D, Kunjunju A**, *Exploring the outcomes, perceptions and evidence about the use of insulin for women in the management of gestational diabetes mellitus and beyond pregnancy.* 2021 ISLHD Allied Health, Nursing & Midwifery Research Grants (\$9,715).

**Bastian B, Francois M, Smithers L**, *Exploring the effectiveness of insulin therapy in preventing maternal and neonatal adverse outcomes in women with Gestational Diabetes Mellitus (GDM).* 2021 IHMRI Clinical Translation Grant (\$20,000).

**Kandl B, Turner R, Waller K, Bauman A, Davis K, Furber S**, *The effect of a text message program (TEXT4HealthyHeart) on reducing overweight and obesity for people referred to the Shoalhaven Cardiac Rehabilitation Program.* 2021 ISLHD Allied Health, Nursing & Midwifery Research Grants (\$9,945.58).

### PUBLIC HEALTH

**Westley-Wise V, Frew H, Taylor K, Mayne D, Keighley C, Lovatt D, Jones S, Burns P, Seale H**, *Experience of COVID-19 testing across Illawarra Shoalhaven Local Health District.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: University of Wollongong, The University of New South Wales, Southern IML.

This is a collaborative study between the Illawarra Shoalhaven Local Health District and Southern IML Pathology. The primary objective of the study is to ascertain and compare the patient experience, including level of discomfort, between two COVID-19 test collecting methods (throat and single turbinate swabs verses nasopharyngeal). The secondary objective of the study is to evaluate and compare participants' intention to be retested for COVID-19 following their most recent experience. It is hypothesised that a lower level of perceived discomfort will be associated with a higher likelihood of retesting for COVID-19 should it be deemed necessary.



### SURGERY

#### ANAESTHETICS

**Devoy T, Smith N**, *Effect of sugammadex on the serum plasma levels of circulating oestrogens and progesterones in healthy females who take hormone contraception in the perioperative setting.*

Locations: Wollongong Hospital.

Lab studies suggest that sugammadex can reduce plasma oestrogen and progesterone concentrations to the equivalent effect of 1 missed dose of the pill. However, there has been no investigations of this in real life patients.

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**Hegedus J, Gemmell-Smith M**, *Perioperative oral paracetamol administration and intra-operative IV paracetamol administration; potential cost and plastic waste benefits.*

Locations: Wollongong Hospital.

External Partners: The University of Wollongong.

The peri-operative administration of paracetamol is associated with improved pain outcomes in surgical patients, however the IV administration of paracetamol intraoperatively is thought to be associated with increased plastic waste and is more costly than the alternative (oral paracetamol). This project will collect data regarding the use of IV and oral paracetamol in elective surgical patients in the perioperative period at TWH to contribute to a collaborative audit.

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Myles P, Peyton P, Henderson G, Marriott A, Ward T, Bulach R, Tan N, Phillips B, Leslie K, Phan T, Bramley D, Bullingham A, Bennett M, Dieleman S, Corocoran T, Hillyard S, Herdy C, Miller A, Bartlett D, Gurunathan U, Pilling E, Campher M, Lee J, Correa P, **Rouhani F, Paton J**, *Tranexamic acid to Reduce Infection after Gastrointestinal Surgery: the TRIGS Trial.*

Locations: Wollongong Hospital.

External Partners: The Alfred Hospital, Austin Hospital, Ballarat Hospital, Geelong Hospital, Box Hill Hospital, Dandenong Hospital, Epworth Healthcare Richmond, Monash Medical Centre, Royal Melbourne Hospital, St Vincent's Hospital Melbourne, Western Hospital, Blacktown Hospital, Prince of Wales Hospital, Westmead Hospital, St John of God Hospital Subiaco, Rockingham General Hospital, Royal Perth Hospital, Caboolture Hospital, Gold Coast University Hospital, Mackay Base Hospital, Prince Charles Hospital, Princess Alexandra Hospital, Redcliffe Hospital, Royal Brisbane and Women's Hospital, Tweed Hospital.

Tranexamic acid is a lysine analogue that acts by blocking the lysine-dependent production of plasmin and resultant fibrinolysis. Plasmin has direct effects on immune function and inflammation, and there is compelling laboratory and clinical evidence demonstrating tranexamic acid may reduce infection risk in surgery. This multicentre, pragmatic, double-blind, randomised clinical trial will compare the incidence of surgical site infection and red cell transfusion requirements after IV tranexamic acid and placebo in patients undergoing gastrointestinal surgery.

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**Smith N, Bonin C**, *Investigating postoperative renal function in a cohort of patients with severe obesity undergoing non-bariatric surgery.*

Locations: Wollongong Hospital.

Obesity is known to be a risk factor for chronic kidney disease. The perioperative period is also a time of danger for people with impaired renal function. Outcomes from previous work has led to this project which will investigate more details about renal function in this patient group. The study proposes to look at their postoperative renal function and relate this to their preoperative renal function.

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**Waldman B, Smith N, Lawson T**, *STOP: Smoking and quitting Throughout the peri-Operative Period.*

Locations: Wollongong Hospital.

The proposed study will be the first to evaluate perioperative smoking and cessation trends since the release of the ANZCA and RACS position statements on perioperative smoking. It will also be the first to record both pre-operative and post-operative prescription of smoking cessation therapy for a cohort of patients.





## GENERAL SURGERY

**Ashford B, Mourad A, Yabe TE, Wykes J, Pearson S**, *Utility of fine needle aspiration cytology as a diagnostic aid for parotid tumours.*

Locations: Wollongong Hospital.

Parotid tumours are rare disease entities comprising less than 5% of all head and neck cancers. The pre-operative workup includes a thorough physical examination alongside directed imaging to better characterise the lesion and assess for any distant disease. While initially contentious, pre-operative Fine Needle Aspiration and Cytology (FNAC) has become a valuable ancillary that is advocated by several guidelines globally. The sensitivity and specificity of FNAC in predicting the final histopathology of parotid tumours has garnered much interest in recent years. There is however limited data on its utility in a contemporary Australian setting. This study will look to retrospectively evaluate parotidectomies performed across the ISLHD over the last 10 years. Using the eMR and MOSAIQ clinical systems, data on the FNAC and final histopathology for these patients will be extracted and the concordance between the two will be assessed.

**Ashford B, Yu P, Spillance J, Selak T, Deng C, Hewitt L, Qian S, Song T, Mitchell J**, *An operating Theatrics: A Day in the Life of an Operating Theatre.*

Locations: Wollongong Hospital.

External Partners: University of Wollongong, Illawarra Health and Medical Research Institute.

As the “financial hub” of any hospital, operating theatres (OT) are resource-intensive, consuming about 40% of hospital running cost for the generation of up to 60% of the total gross revenue. Therefore, maximising OT efficiency is essential to maintaining an economically viable hospital. At Wollongong Hospital (TWH), an OT costs \$7,000 per hour. With 15 OTs running daily for 10 hours, from 8 am to 6 pm, the daily cost of OTs at TWH amounts to \$1.05 million. It is obvious that with the same level of quality of care, improving cost effectiveness of OTs is a universal objective for hospital management. This project is aimed at understanding the surgical patient journey through ethnographic field investigation. As there is a lack of baseline data about the activities a patient experience in journey through an OT in Australian hospitals, this proposed research is significant in contributing the essential baseline data. This data can be used to identify current problems in OT management, thus will have a significant impact on hospital administrators, providers, staff and patients.

**Ashford B, Hewitt L, Mitchell J, Yabe E**, *Factors associated with morbidity post reconstructive free flap surgery of the head and neck. An observational study.*

Locations: Illawarra Shoalhaven Local Health District.

The aim of this study is to identify potential factors associated with morbidity post-reconstructive free flap surgery of the head and neck. It will be achieved via the medical record review of patients who underwent free flap reconstruction in ISLHD.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

**Ashford B, Hewitt L, Mitchell J, Yabe E, Tkac S, Tan B**, *Donor-site morbidity following radial free flap reconstruction for head and neck surgical patients. An observational study.*  
Locations: Illawarra Shoalhaven Local Health District.

This study aims to investigate post-operative donor site morbidity following radial free flap reconstruction for head and neck surgical patients. Modern advances in head and neck reconstructive surgery has expanded the horizons in terms of safe and effective treatment options surgeons can offer their patients, but with novelty comes limited data on long-term safety. This evaluation of donor site morbidity will aid in both the clinician and patient decision-making process, and contribute to the body of research in this ever-expanding field.

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Clark J, Charters E, Dunn M, Cheng K, **Ashford B, Boehm J**, *Efficacy of Hospital-Based Manufactured Medical Device Restorabite for treatment of Trismus.*  
Locations: Wollongong Hospital.  
External Partners: Chris O'Brien Lifehouse, Royal Prince Alfred Hospital.

Trismus is a restriction in jaw opening often experienced by people treated for head and neck cancer. Once onset begins, an intensive intervention program involving passive and active range and strengthening of jaw motion is required. Despite the serious consequences of long-term effects of trismus, research into an interventional passive and active stretching exercise is currently inadequate. There is an unmet need to develop a passive and active jaw stretching device that is biomechanically validated, safe, easy to use, and affordable for trismus patients. This project aims to evaluate efficacy of Hospital-Based Manufactured Medical Device Restorabite for treatment of Trismus.

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**Hewitt L, Ashford B, Wykes J, Yabe T**, Clark J, Steele L, Challita M, Dunn M, *Donor site functional implications post head and neck surgery. An assessment of the use of the fibula free flap to reconstruct the head and neck.*  
Locations: Illawarra Shoalhaven Local Health District.  
External Partners: Chris O'Brien Lifehouse.

Head and neck patients are a complex cohort, many with multiple co-morbidities and health related issues. Functional deficits in the lower limb from the use of the fibula free flap may lead to a further deterioration of health due to the impacts of reduced exercise tolerance, reduced mobility, and increased carer or health service burden due to the possible increase in activity of daily living support requirements and functional decline. To provide evidence for an alternative method, such as the use of PEEK as a customised bone, further investigation into the donor-site morbidity is required. The aim of this study is to investigate the functional impact on the donor-site morbidity after the use of the fibula free flap to reconstruct the head and neck.

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**Hewitt L, Ashford B, Yabe TE, Mitchell J, Douglas C**, *Quality of Life impacts following head and neck surgery for advanced stage skin cancer.*  
Locations: Illawarra Shoalhaven Local Health District.

A recent scoping review of the literature concerning patients with head and neck cancer identified that prospective observational studies to evaluate clinically-relevant limitations were required. Further understanding the impact of this surgery on restrictions caused for these patients will enable clinicians to provide holistic follow-up and care options. This is an observational study which aims to investigate the Quality of Life impacts following head and neck surgery for advanced stage skin cancer.

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**Joseph K, Seth I, Lower K, Outmezguine J**, Derflingher LP, **Ashford B, Curtis K**, *Antibiotic vs. Surgical Management of Uncomplicated Acute Appendicitis in the Illawarra Shoalhaven Health District: a 20-year retrospective analysis comparing proportions and trends in management, 28-day readmissions, and length of stay.*  
Locations: Illawarra Shoalhaven Local Health District.  
External Partners: Center for Health Research Illawarra Shoalhaven Population (CHRISP).

The aim of this study is to estimate the proportion of acute uncomplicated appendicitis cases that are treated with antibiotics only in the Illawarra Shoalhaven Health District, as well as compare the overall patient lengths of stay and 28-day readmission rates between those who undergo antibiotic and surgical management. Results will contribute to existing literature and help inform the optimal management of future acute appendicitis cases.

## 2021 ISLHD RESEARCH ACTIVITY REPORT

Lee J, Boyer M, **Ashford B, Wykes J**, *A Phase 0 Master Protocol Using the CIVO® Platform to Evaluate Intratumoural Microdoses of Anti-Cancer Therapies in Patients with Solid Tumours.*

Locations: Wollongong Hospital.

External Partners: Chris O'Brien Lifehouse.

This research project is testing the potential new treatments for solid tumours by assessing local responses certain anti-cancer drug(s) have after very small amounts (microdoses) of these drugs are injected directly into tumours for which there is a scheduled surgical intervention. The microdose injections are performed using the CIVO (Comparative In Vivo Oncology) device platform. The master study will consist of multiple substudies that will include specified investigational agents and combinations to be evaluated. This substudy is assessing a potential study treatment for head and neck cancer of an experimental drug called MVC-101.

**Yabe T, Ashford B, Wykes J, Balu S, Mitchell J, Hewitt L**, *Impact of geriatric services on head and neck surgery patients.*

Locations: Illawarra Shoalhaven Local Health District.

This study aims to assess the effect of perioperative geriatric input on elderly head and neck patients (75 years of age and above), and to make recommendations regarding the increased oncogeriatric service provision to head and neck surgical patients



## NEUROSURGERY

**Murambi R, Jaeger M, Chour H, Glenn D**, *The association of radiological features of idiopathic normal pressure hydrocephalus with intracranial pressure monitoring.*

Locations: Wollongong Hospital.

This project aims to study the relationship between radiological features on MRI/CT imaging and physiological intracranial pressure monitoring parameters in patients with suspected idiopathic normal pressure hydrocephalus.

## ORTHOPAEDIC SURGERY

Farey J, Harris I, **Bhimani A**, *DISTINCT: Dual Mobility Versus Standard Total Hip Arthroplasty In Femoral Neck Fractures, A Registry-Nested, Cluster-randomised Trial.*

Locations: Wollongong Hospital.

External Partners: The University of Sydney, Liverpool Hospital, the University of New South Wales, Nepean Hospital, Royal Prince Alfred Hospital.

Fractured neck of femur (FNF) is a common problem, affecting 25,000 Australians per annum. Total hip replacement (THR) is the current standard of care for fractured neck of femur in community-dwelling patients with minimal co-morbidities. However, despite superior pain and functional scores compared to partial hip replacement (hemiarthroplasty), THR exposes patients to an increased risk of prosthesis dislocation. Dual mobility cups (DMC) are an alternative THR design in common use in Australia, and are hypothesised to reduce the risk of dislocation. This trial will compare the outcomes of standard THR versus DMCs in the FNF population.



## 2021 ISLHD RESEARCH ACTIVITY REPORT

**Lower K, Moules S, Joseph K, Outmezguine J, Carillo-Hayley J, Anjum S, Curtis K,** *Retrospective analysis of patient and health services outcomes associated with use of intramedullary nail compared with sliding hip screw for the treatment of trochanteric hip fractures in a New South Wales Regional Local Health District.*

Locations: Illawarra Shoalhaven Local Health District.

External Partners: Center for Health Research Illawarra Shoalhaven Population (CHRISP).

This study aims to evaluate patient and health services outcomes (30-day, 90-day and 12-month) associated with the use of intramedullary nail versus sliding hip screw for the treatment of trochanteric hip fractures.

### OTOLARYNGOLOGY

**Every J, Sideris A, Sarkis L, Lam M, MacKay S, Pearson S,** *Parathyroid gland auto-transplantation as a strategy for preventing hypocalcaemia following pharyngolaryngectomy.*

Locations: Wollongong Hospital.

This study aims to describe transient and permanent hypocalcaemia rates in patients undergoing total or partial pharyngolaryngectomy with preservation or autotransplantation of the parathyroid gland.

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**Every J, Sideris A, Miljkovic D, Do T, Jones A, MacKay S,** *Evaluating surgical and non-surgical mean disease alleviation scores in Obstructive Sleep Apnoea.*

Locations: Wollongong Hospital.

This is the first project to utilise a score that incorporates both efficacy and compliance in surgical and non-surgical treatments of Obstructive Sleep Apnoea

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**Lindsay B, Sideris A, Sarkis L, Lam M, Mackay S,** *Modified Uvulopalatopharyngoplasty and radiofrequency-in-saline tongue channeling in the management of primary snoring.*

Locations: Wollongong Hospital.

This study aims to determine the effect of modified uvulopalatopharyngoplasty and radiofrequency-in-saline tongue channeling upon simple snoring.

### VASCULAR SURGERY

**Jha P, O'Donnell J, McGlade D, Rodgers H, Villalba L, Leighton C, Robinson S, Sutton L, Nguyen T,** *VenaSeal Spectrum.*

Locations: Wollongong Hospital.

External Partners: Sunshine Coast University Hospital.

This study is to evaluate adult patient's experience and clinical improvement after treatment with the VenaSeal system compared to standard surgical stripping of varicose veins. It will measure the patient's clinical improvement, ability to return to work, vein closure, patient experience and healthcare utilisation.

### GRANTS

**Ashford B, Yu P, Spillance J, Selak T, Deng C, Hewitt L, Qian S, Song T, Mitchell J,** *An operating Theatrics: A Day in the Life of an Operating Theatre.* Illawarra Health and Medical Research Institute (IHMRI) Clinical Translation Grant (\$29,743.00).

**Mordaunt D, Yu P, Ashford B, Craig S, Davis K, Li W,** *Surgical pathway discovery: appendectomy as an archetype.* 2021 IHMRI Clinical Translation Grant (\$20,000).



### 2021 ISLHD PUBLICATIONS AND CONFERENCES

There were a total of 271 publications or conference presentations made known to the ISLHD Research Office appearing in the year 2021, and had one or more authors listed with ISLHD affiliations. They are listed below in alphabetical order of first author surname, and names in bold font represent ISLHD clinicians.

ISLHD-Led Publication or Conference = 122

Number of ISLHD Authors having one or more publication = 264

#### PUBLICATIONS

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