UQ Summer Research Scholarship Projects in the Faculty of Medicine 2021-22

Read about the summer program on the https://employability.uq.edu.au/summer-winter-research page, and apply online from 23 August 2021 - 26 September 2021 via https://employability.uq.edu.au/summer-winter-research/apply

Please take note of where each project is located. Projects are listed under the unit names on the application page (StudentHub). Additional projects may be uploaded over the coming weeks up until 10 September so please check which version you download.
(Most recent update: 9 Sept 2021: New projects, projects in RuralCS have been shortened)

School of Biomedical Sciences

SBMS#1	A/Prof Michael Piper	Analysis of microcephaly in Eed mutant mice
SBMS#2	Dr Mark G Coulthard & A/Prof Trent Woodruff	The molecular and cellular basis of vascular leak in severe sepsis/systemic inflammatory response syndrome
SBMS#3	Dr Sherry Wu	Development of novel strategies for treatment of ovarian cancer

School of Public Health

SPH#1	Dr Amalie Dyda	Characterising online engagement with vaccination information and its associations with vaccine hesitancy
SPH#2	Dr Amy Hickman	Teaching and Learning reflexivity in the Public Health Classroom
SPH#3	Dr Cheneal Puljevic	The Australian illicit tobacco market
SPH#4	Dr Kylie Morphett	Analysis of media coverage of tobacco endgame proposals
SPH#5	Dr Dolly Baliunas	Impact of COVID-19 on smoking cessation medicine prescriptions in Australia
SPH#6	Dr Darsy Darssan	Extracting and reconstructing individual patient data from Randomised Control Trials.
SPH#7	Dr Yibeltal Alemu	Review of the primary health care approach towards universal health coverage in Australasia
SPH#8 *new v3*	Dr Abbey Diaz	Adverse cardiovascular events after cancer: systematic review

Child Health Research Centre

CHRC#1	Dr Natasha Reid	Assessment and diagnosis of fetal alcohol spectrum disorder
CHRC#2	Dr Dwan Vilcins	Air quality and children's lung outcomes: the role of environmentally persistent free radicals as a household exposure source
CHRC#3	Dr Enda Byrne	Investigating genetic risk factors for sleep problems in adolescents and young adults

CHRC#4	Prof Christel Middeldorp	Assessment of core psychopathology, co-morbidity and family functioning in children and adolescents with eating disorders
CHRC#5 *new v2*	Prof Karen Barlow	Investigating needs and costs associated with Traumatic Brain Injury in Children
CHRC#6 *new v2*	Dr Andrea Burgess and Dr Sarah Reedman	Aetiology and risk factors for cerebral palsy in a prospective, longitudinal cohort study of Australian children

Centre for Health Service Research

CHSR#1	A/ Prof Jason Ferris	Global Drug Survey: Analysis of data from the world's largest survey of drug use (2013-2021)
CHSR#2	Professor Jason Pole	Impact of COVID-19 on Opioid Prescriptions in Australia
CHSR#3	Professor Clair Sullivan	SMART (part of the EMPOWER Project)
CHSR#4	Dr Ronald Dendere	Evaluating the impacts of digital health maturity across Queensland Health: A qualitative study
CHSR#5	Dr Befikadu Wubishet	Health service use associated costs among patients with diabetes
CHSR#6	Dr Anish Menon	Retrospective audit of characteristics of patients seen in a tertiary hospital diabetes telehealth service versus specialist face to face outpatients.
CHSR#7	Dr Nazanin Falconer	A scoping review of qualitative studies of antimicrobial stewardship in the aged care setting
CHSR#8	Dr Leila Shafiee Hanjani	Side effects of chemotherapy in relation to frailty status
CHSR#9	Prof Jason Pole	Impact of COVID-19 on Sexual Health Prescriptions in Australia
CHSR#10 *new v3*	Dr Centaine Snoswell	Telehealth uptake on the MBS in different states and territories
CHSR#11 *new v3*	Dr Jaimon Kelly	Patient attitudes toward engaging with digital health services: what can social media tell us?

UQ Centre for Clinical Research

UQCCR#1	Dr Luis Furuya Kanamori	Effect of multiple rabies booster doses in antibody titre levels
UQCCR#2	Dr Nadeeka Dissanayaka	Defining subtypes of cognitive impairment in Parkinson's disease and their relation to Alzheimer's disease
UQCCR#3	Dr Natasha Roberts	Shared decision making in oncology care
UQCCR#4	Dr Richard Gordon	Novel therapeutic targets and biomarkers for Parkinson's disease
UQCCR#5	Dr Susan de Jersey	Evaluation of an online training package for health professionals to support healthy pregnancy weight gain

UQ Diamantina Institute

UQDI#1	Prof Antje Blumenthal	Molecular drivers of macrophage inflammatory responses during bacterial infection

UQDI#2	Dr. Ahmed Mehdi	Mapping genes to cell types through streamlined high throughput Multi-Omics approaches
UQDI#3	A/Prof Emma Hamilton-Williams	Investigating the gut microbiota in type 1 diabetes
UQDI#4	Dr. Fernando Guimaraes	Which tumour immunosuppressive pathways prevent natural killer cell activation?
UQDI#5	Dr. Giorgia Mori	How do drugs get into Mycobacterium tuberculosis?
UQDI#6	Prof Ian Frazer	GLACIER: A web interface for visualising gene set annotation enrichment for single-cell RNA seq data
UQDI#7	Prof Ranjeny Thomas	Autoimmunity in children with type 1 diabetes
UQDI#8	Prof Ranjeny Thomas	Genome-wide survival analysis of type-1 diabetes progression in high-risk children
UQDI#9	Prof Ranjeny Thomas	Person-centred lifestyle resilience program in rheumatoid arthritis
UQDI#10	Dr Snehlata Kumari	Myeloid cells in inflammation and immunity
UQDI#11 *new v3*	A/Prof Tim Lutz	Evaluating health and disease associations of the human gut microbiome through an evidence-based medicine framework.

QIMR Berghofer Medical Research Institute

QIMRB#1	Dr Lachlan Harris	Prolonging survival in brain cancer by targeting slow-dividing cells
QIMRB#2	Dr Luize Goncalves Lima	Exploring exosomes as potential cancer biomarkers
QIMRB#3	Dr Kyohei Nakamura	Harnessing immune-mediated control of blood cancers
QIMRB#4	Dr Pramila Maniam and Dr Ama Tawiah Essilfie	Investigation of dysregulated iron metabolism in cystic fibrosis
QIMRB#5	Dr Kartik Iyer	Feasibility of mapping individual electroencephalography to neuroanatomical sources across children and adolescents
QIMRB#6	Dr Lochlan Fennell	Improving therapeutic responses to chemotherapy through combination common drugs
QIMRB#7	Dr Siok Tey	Chimeric Antigen Receptor (CAR) T cells for the treatment of cancer
QIMRB#8	A/Prof David Frazer	Investigating hepcidin regulation in hereditary haemochromatosis
QIMRB#9	A/Prof Harsha Gowda	Protein biomarkers to predict immunotherapy response in lung cancers

Rural Clinical School

RuralCS#1	A/Prof Srinivas Kondalsamy-Chennakesavan	Developing indicators to measure Rural Health Research Impact
RuralCS#2	A/Prof Srinivas Kondalsamy-Chennakesavan	A review on the use of Augmented Reality (AR) and Virtual Reality (VR) in clinical education
RuralCS#3	Dr Ming Ho	Polyp surveillance colonoscopy in Central Queensland

RuralCS#4	Dr Antony Attokaran	Immune related adverse events of monoclonal antibodies - A scoping review
RuralCS#5	Dr Antony Attokaran	Role of Therapeutic Plasma exchange in critically ill patients with Catastrophic Antiphospholipid Syndrome - A Literature review
RuralCS#6 *new v2*	Dr Sunday Pam	How long till we get it right? Imaging in Paediatric UTI

Office of Medical Education

OME#1	Dr Christy Noble	Developing feedback literacy to navigate transitions: Researching the effects of an authentic interprofessional learning approach
\OME#2	Dr Charley Greentree	Applying the AMSA Racial Discrimination Scorecard and Cultural Diversity Scorecard to the current UQMD Curriculum

School of Clinical Medicine – CHQ Clinical Unit

SoCMCHQ#1	Dr Jasneek Chawla	Innovative paediatric sleep medicine diagnostics

School of Clinical Medicine - Northside Clinical Unit

SoCMNth#1	A/Prof Henry Marshall	Artificial Intelligence Chatbot for Smoking Cessation
SoCMNth#2	Prof Dan Chambers	Outcomes of lung transplantation
SoCMNth#3	Prof Dan Chambers	Australian Interstitial Lung Disease Registry
SoCMNth#4	Dr Nchafatso Obonyo	Improving sepsis outcome through limiting vascular endothelial-glycocalyx injury and augmenting its recovery: Investigations in an ovine septic shock-model
SoCMNth#5	Dr Linh Ngo	Trends in outcomes of patients hospitalized with atrial fibrillation or atrial flutter in Australia and New Zealand from 2008-2017
SoCMNth#6	Dr Maryam Khorramshahi Bayat	Urinary Sodium Guided Diuretic Titration to Expedite Care of Acute Heart Failure: A Randomised Controlled Trial
SoCMNth#7	Dr Wandy Chan	Streamlined Pathway for Acute Heart Failure (SPAHF)
SoCMNth#8	Dr Yang Peng	Incidence, Causes and Timing of Potentially Preventable Readmissions Following an Acute Stroke
SoCMNth#9	Dr Yong Wee	Developing Scalable Methods to Track Incidence and Outcomes of Infective Endocarditis
SoCMNth#10 *new v2*	Prof Kwun Fong	Biomarkers for early lung cancer
SoCMNth#11 *new v2*	Prof Ian Yang	Clinical guideline implementation for COPD
SoCMNth#12 *new v3*	Dr Robert Hovarth	HACEK Bacteraemias in a cardiothoracic centre

School of Clinical Medicine - PAH-Southside-Clinical Unit

SoCMPAH#1	Prof Dan Siskind	The reasons for and impact of clozapine cessation: A Systematic Review and Meta-Analysis
SoCMPAH#2	Dr David Highton	Analysing brain haemodynamics to defend against perioperative organ dysfunction
SoCMPAH#3	Dr Georgia Livesay	Patterns of bedside ultrasound usage
SoCMPAH#4	Dr Katherine Isoardi	Psychosis in patients with methamphetamine intoxication: do they all need a mental health referral?

School of Clinical Medicine – Primary Care Clinical Unit

SoCM PrimCare#1	A/Prof Katharine Wallis	RELEASE: REdressing Long-tErm Antidepressant uSE: optimising resources to support safe cessation of long-term antidepressants in general practice

School of Clinical Medicine - Royal Brisbane Clinical Unit

SoCMRoyal#1	A/Prof Zarnie Lwin	Multifactor determinants that influence patient participation in cancer clinical trials in Australia
SOCMRoyal#2 *new v2*	Prof André Van Zundert	Vision-guided insertion of two new airway devices on manikins

School of Biomedical Sciences

Project title: SBMS#1	**Analysis of microcephaly in Eed mutant mice**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 25-30 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be shortened or modified if scholar cannot access the location
Description:	THE PROBLEM: The most striking feature of the central nervous system (CNS) is the anterior expansion of the brain relative to the spinal cord. This feature is phylogenetically conserved in all animals with a CNS, from annelids to humans and has been instrumental in the evolution of complex cognition. Despite its importance, major knowledge gaps remain in our understanding of the evolutionary, genetic and cellular mechanisms responsible for driving anterior CNS expansion. Our goal is to bring closure to a much-debated question relevant to many disciplines i.e., what makes brains big in mammals? THE SOLUTION: Using Drosophila, researchers have developed novel approaches to systematically address cell proliferation along the anterior-posterior axis of the developing CNS. They discovered novel brain-specific proliferation features—an extended phase of stem cell proliferation and a more prevalent daughter cell proliferation—underpinning anterior brain expansion. This led to the theory that a gradient of "stemness" exists along the anterior-posterior neural axis. In Drosophila, it has been shown that enhanced stemness in the brain is promoted by a set of brain proliferation "driver" genes (brain-specific transcription factors), while the reduced stemness in the nerve cord is mediated by posterior proliferation "stopper" genes (Hox homeotic genes). Critically, the key to how this gradient of stemness is established is now known. Researchers have discovered that an ancient epigenetic system, the Polycomb Group (PcG), acts as a "gatekeeper" to restrict the drivers to the brain and the stoppers to the nerve cord. This gatekeeper is evolutionarily conserved in mammals, evident by the severely reduced anterior brains (microcephaly) observed in PcG mouse mutants. THE PROJECT: Here, we will analyse the anterior brain (neocortex and hippocampus) of mice lacking a key PcG factor, Eed. Analysis of this line will provide key insights into how this epigenetic driver coordinates anterior expansion of the brain.
Location:	St Lucia, Otto Hirschfeld Building

Expected outcomes and deliverables:	The student will work on an established project with a second hear HDR student. They will learn basic anatomy of the forebrain, perform sectioning and immunofluorescent staining, asn well as advanced confocal microscopy. There will also be the potential to learn other techniques, such as cell culture, qPCR, DTMRI analysis and bioinformatics.
Suitable for:	Open to students with a background in biomedical sciences
Primary Supervisor:	A/Prof Michael Piper https://biomedical-sciences.uq.edu.au/research/groups/neural-stem-cells m.piper@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: SBMS#2	**The molecular and cellular basis of vascular leak in severe sepsis/systemic inflammatory response syndrome**
Project duration, hours of engagement & delivery mode	Length of project: 10 weeks Hours expected per week: 20-36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Hospital -based aspects of the project will be shortened or modified.
Description:	Our research program focuses on understanding and defining therapies to restore vascular endothelial integrity (barrier function) in diseases characterised by systemic inflammation. These diseases include septic shock, the systemic inflammatory response syndrome (SIRS), and the acute respiratory distress syndrome (ARDS), which may complicate major surgery (e.g. cardiac bypass surgery, organ transplantation), severe trauma and extensive burns. Systemic inflammation causes vascular leak, affecting 80% of children and up to 70% of adults admitted to intensive care. Vascular leak is caused by changes in endothelial barrier integrity and is critical to the pathogenesis of diseases characterised by systemic inflammation, including sepsis (systemic inflammation secondary to infection), SIRS and ARDS. Both SIRS and ARDS can complicate major surgery, severe trauma and extensive burns, and contribute to multi-organ failure and death. Sepsis affects ~50 million patients/year globally, causing at least 11 million deaths, and ARDS affects over 550,000 patients/year in the USA alone. Endothelial integrity is also disrupted in ischaemia/reperfusion (I/R) injury, which follows the restoration of blood flow after myocardial infarction, stroke, solid organ transplantation, and cardiac bypass surgery, and results in organ damage13. Over 150,000 solid organ transplant patients/year are at risk of I/R injury worldwide.

	There is currently no therapy directed at repairing the vascular endothelium in systemic inflammation. Recently, we developed an EphA4 receptor fusion protein (EphA4-Fc) as a novel therapy to restore vascular endothelial barrier function in systemic inflammation, including sepsis. EphA4-Fc acts as a decoy receptor and due to cross talk between Ephs and ephrins, it effectively neutralises multiple different Eph/ephrin interactions, including the EphA2-ephrinA1 interaction, which mediates loss of vascular endothelial barrier function. Our vision is to use a deglycosylated EphA4-Fc drug candidate (patented by the University of Queensland) with improved pharmacokinetics, to treat critically ill patients with sepsis, SIRS and ARDS, or, to prevent vascular leak in patients undergoing complex surgery (e.g. cardiac bypass, organ transplantation) and improve clinical outcomes. Our preliminary data in a mouse sepsis model shows that EphA4-Fc markedly improves survival associated with reduced inflammatory cytokines and systemic vascular leak, validating our approach. We are also testing microdialysis and plasma levels endothelial activation markers as a method of monitoring vascular endothelial integrity in children undergoing cardiac surgery for repair of congenital heart disorders and critically-ill patients admitted with sepsis. In summary, we are developing an innovative method of monitoring vascular endothelial integrity (microdialysis and endothelial markers) and we have a novel therapy for sepsis (EphA4-Fc decoy receptor), which focuses on restoring the integrity of the vascular endothelium, which is the final common pathway for sepsis. For this project, we will establish the preclinical pharmacology and pharmacokinetics of the deglycosylated EphA4-Fc, perform dose-ranging studies in a mouse model of infection and undertake ex vivo functional assays, including development of a biomarker method to assess target engagement in critically ill patients.
Location:	St Lucia, Skerman Building PA Hospital (optional)
Expected outcomes and deliverables:	This research project has a broad scope and will give the student a wide range of opportunities to undertake clinical research, learn molecular, cellular and animal model techniques. The applicant will be closely supervised by a post-doctoral researcher. There may be opportunities to undertake clinical research in the paediatric intensive care unit at Queensland Children's Hospital. The applicant will have the opportunity to present at the weekly lab meeting and participate in writing for both poster and paper publications.
Suitable for:	It is ideally suited to an applicant who is considering entering a critical care or surgical training program in future and will prepare the applicant for the physician-scientist pathway following graduation.
Primary Supervisor:	Dr Mark G Coulthard https://researchers.uq.edu.au/researcher/4312 Mark.Coulthard@health.qld.gov.au

	0418155370
Primary contact, if not supervisor	-
Further info:	The supervisor MUST be contacted by students prior to submission of an application This project is located on a hospital site or includes patient contact. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required.

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Project title: SBMS#3	**Development of novel strategies for treatment of ovarian cancer**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	We are interested in developing novel nano-therapeutic methods to overcome immune suppression in ovarian cancer. Ovarian cancer is the most deadly type of gynaecologic disease with more than 1500 new cases being diagnosed each year in Australia. The high recurrence rate is a major challenge in the clinical management of high grade serous ovarian cancer. While stimulating our own immune system to recognize and attack tumour cells represents an attractive means to facilitate complete elimination of tumours, emerging data suggest that many of the immunotherapy tools, such as immune checkpoint inhibitors, are minimally active in ovarian cancer. We aim to develop effective strategies to enhance the infiltration and function of cytotoxic T lymphocytes in ovarian tumours and to develop clinically feasible means to monitor T-lymphocytes activity in tumours following therapy. We are also interested in developing more effective tumour-targeting delivery strategies for treatment of ovarian cancer. Ultimately, strategies developed in this project could harness the power of the immune system to eliminate tumours and significantly increase the survival of patients with ovarian cancer. We are seeking a motivated undergraduate student who is interested in contributing to a large project involving nanotechnology and cancer biology, and who is eager to learn how to develop effective strategies to enhance anti-tumour immunity. The student will learn critical laboratory skills and knowledge needed to develop new strategies to enhance the infiltration and function of cytotoxic T lymphocytes in ovarian tumours. In addition, the student will gain experience in developing novel nanoparticle platforms for tumour-targeted delivery. He/She will gain experience in working in a multidisciplinary environment, obtain hands-on training from the lab head and a postdoctoral fellow, and contribute to an exciting project in the area of cancer nanomedicine and immunology.

	This project is open to applications from students with a background in biomedical sciences, pharmacy, or biomedical engineering, who is interested in exploring research as a career path. Cancer Therapeutics; https://biomedical-sciences.uq.edu.au/research/groups/cancer-therapeutics
Location:	St Lucia campus, Building 64 Cancer Therapeutics Lab
Expected outcomes and deliverables:	The student will learn critical laboratory skills and knowledge needed to develop new strategies to enhance the infiltration and function of cytotoxic T lymphocytes in ovarian tumours. In addition, the student will gain experience in developing novel nanoparticle platforms for tumour-targeted delivery. He/She will gain experience in working in a multidisciplinary environment, obtain hands-on training from the lab head and a postdoctoral fellow, and contribute to an exciting project in the area of cancer nanomedicine and immunology.
Suitable for:	This project is open to applications from students with a background in biomedical sciences, pharmacy, or biomedical engineering, who are interested in exploring research as a career path.
Primary Supervisor:	Dr Sherry Wu sherry.wu@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application Evidence of vaccination or nonsusceptibility for vaccine preventable diseases will be required for this project

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School of Public Health

Project title: SPH#1	**Characterising online engagement with vaccination information and its associations with vaccine hesitancy**
Project duration, hours of engagement & delivery mode	Length of project: 8 to 10 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	Adult vaccination is an important public health measure to mitigate the impact of infectious diseases. Yet levels of uptake are sub-optimal and affected by a complex set of factors. Adult barriers to vaccination are often relate to awareness and perceived risk, which can be affected by exposure to evidence and misinformation. Despite the volume of studies on misinformation on social media very few measure associations between information engagement and vaccine hesitancy. To address this gap, we aim to use an innovative mixed method study design to measure and identify associations between measures of information engagement and vaccine hesitancy for social media users. Methods will involve a survey

	measuring vaccine hesitancy, a machine learning analysis of factors derived from Facebook that predict vaccine hesitancy, vaccine-specific online media use diaries, and focus groups. By inviting survey respondents to participate in focus groups and vaccine-specific online media use diaries, we capture context about how people identify and engage with vaccine information they see online, helping us understand the salience of the information and misinformation, and perceived importance from respondents' perspectives.
Location:	School of Public Health, Herston
Expected outcomes and deliverables:	Scholars may gain a variety of skills depending on which aspect of the project they choose to focus on. They will gain skills in mixed methods study design and implementation, may gain skills in data collection, analysis and some understanding of machine learning, may gain skills in qualitative study design and implementation and there will likely be opportunities to contribute to a publication.
Suitable for:	As this is a mixed methods study, this project would benefit from a student with knowledge of qualitative or quantitative study methods. Knowledge and experience in general research methods is desirable. Skills in literature searching and synthesis are required. No prior knowledge of machine learning is required for this project. An interest or experience in vaccination is highly desirable.
Primary Supervisor:	Dr Amalie Dyda a.dyda@uq.edu.au https://researchers.uq.edu.au/researcher/29291
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: SPH#2	**Teaching and Learning reflexivity in the Public Health Classroom**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 25 hours Earliest start date: 29/12/2021 Latest finish date: 16/02/2022 COVID-19 considerations: advice pending.
Description:	Building on insights gained from a recent student staff project exploring the role of reflexivity in teaching and learning in the Faculty of Medicine., this project will have three elements: 1. Data analysis of transcribed interview and focus group data, 2 Desktop review of evidence base for reflexivity in teaching in public health contexts, 3. Working closely with CI, students will contribute to the dissemination of the research through development of a article length manuscript
Location:	Herston

Expected outcomes and deliverables:	Students will gain experience in data analysis and in writing for publication in health promotion contexts. This project will of interest to those students who are interested in teaching and learning at the graduate level in public health.
Suitable for:	Students should be current Masters of Public Health or medical students with an interest in the role of reflexivity in teaching and learning.
Primary Supervisor:	Dr Amy Hickman a.hickman@uq.edu.au https://researchers.uq.edu.au/researcher/27826
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: SPH#3	**The Australian illicit tobacco market**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	Concerns about an increase in the illicit tobacco market are commonly raised when more intensive tobacco control strategies are discussed, such as high levels of tobacco taxation, ending retail sales or mandating the removal of nicotine from cigarettes. This project involves qualitative data analysis of media stories to examine the trends in reporting of the illicit tobacco market in Australia. Depending on the student, the project could also review government reports on the size of the illicit tobacco market and national survey data on use of illicit tobacco.
Location:	Herston/external NHMRC Centre of Research Excellence on Achieving the Tobacco Endgame (https://tobacco-endgame.centre.uq.edu.au/)
Expected outcomes and deliverables:	Scholars will gain skills in data collection, have the opportunity to contribute to a report or research publication, and be invited to give an oral presentation at the end of their project.
Suitable for:	This project is open to students from a wide range of backgrounds, including public health, medicine, nursing, dentistry, psychology, political science, business, law, or communications.
Primary Supervisor:	Dr Cheneal Puljevic create@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: SPH#4	**Analysis of media coverage of tobacco endgame proposals**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	This project will analyse media stories and public comments in response to reporting of tobacco endgame policies. These policies range from phasing out cigarette retailing, making them only available on prescription to making cigarettes non-addictive. This project involves qualitative data analysis.
Location:	Herston/external NHMRC Centre of Research Excellence on Achieving the Tobacco Endgame (https://tobacco-endgame.centre.uq.edu.au/)
Expected outcomes and deliverables:	Scholars will gain skills in data collection, have the opportunity to contribute to a report or research publication, and be invited to give an oral presentation at the end of their project.
Suitable for:	This project is open to students from a wide range of backgrounds, including public health, medicine, nursing, dentistry, psychology, political science, business, law, or communications.
Primary Supervisor:	Dr Kylie Morphett create@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: SPH#5	**Impact of COVID-19 on smoking cessation medicine prescriptions in Australia**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 28 to 36 hours Earliest start date: 6/12/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location

Description:	The COVID-19 pandemic has impacted the management of non-communicable diseases in health systems around the world. This project aims to understand the impact of COVID-19 on smoking cessation medicines dispensed in Australia. The number of prescriptions supplied over time will be investigated across different states, age groups, genders and concessional patient categories to see how the impact of COVID-19 varied across the groups. This research is a secondary analysis of administrative datasets capturing all prescriptions provided through Australia's government subsidised medicines program, the Pharmaceutical Benefits Scheme (PBS). Medicines relevant to the topic will be identified through the PBS item code and the Anatomical Therapeutic Chemical (ATC) codes. The observed change in consumer behaviour prompted by COVID-19 and the resulting public health measures is important to understand in an effort to improve management of medicines supply during potential future waves of COVID-19 and other pandemics.
Location:	
Expected outcomes and deliverables:	(1) Applicants will learn about Australian and international medicine classification systems Applicants will identify relevant medicines using Australia's Pharmaceutical Benefits Scheme (PBS) codes and the World Health Organization's Anatomical Therapeutic Chemical (ATC) codes. (2) Applicants will further develop quantitative data analytical and data visualisation skills Applicants will use software such as R or Stata to produce graphs and tables summarising the PBS data to show the impact of COVID-19 on relevant prescriptions dispensed over time. Data will be stratified by geography (e.g. state) and demographics (e.g. gender, age group). Regression methods or other statistical analysis may be utilised to estimate differences in rates over time. (3) Applicants will develop scientific writing skills Applicants will contribute to drafting a journal article to publish the results of the analysis. This is an example of an article we've published using the PBS data: https://pubmed.ncbi.nlm.nih.gov/34209616/
Suitable for:	Some experience in quantitative data analysis using either Stata, SAS, R etc. (e.g. completed STAT1201 or PUBH2007 or PUBH7630)
Primary Supervisor:	Dr. Dolly Baliunas d.baliunas@uq.edu.au School of Public Health in collaboration with Centre for Health Services Research (https://researchers.uq.edu.au/researcher/27870)
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: SPH#6	**Extracting and reconstructing individual patient data from Randomised Control Trials**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	The scholar will extract individual patient-level data from treatment groups of published randomised control trials in this project. We have identified the publications with a particular statistical graph for data extraction. The scholar will be using a standard graphical digitisation software program for data extraction. Once extracted, the scholar will store them in an Excel worksheet. No prior knowledge in randomised control trials, statistical graphs and software programs is required. Undergraduate first-year level computer literacy is required.
Location:	Herston, SPH building
Expected outcomes and deliverables:	The scholar will gain skills in journal article skimming, data extraction, digital data extraction software program, individual-level data extraction from published graphs and row data management. The scholar will be using EndNote libraries where the selected articles are stored.
Suitable for:	MPH, MEPi, MEnvSc
Primary Supervisor:	Dr Darsy Darssan d.darssan@uq.edu.au https://researchers.uq.edu.au/researcher/23613
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: SPH#7	**Review of the primary health care approach towards universal health coverage in Australasia**
Project duration, hours of engagement & delivery mode	Length of project: 10 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.

Description:	Universal health coverage (UHC) is the main target of sustainable development goal (SDG) 3, which aims to ensure healthy lives and promote well-being for all at all ages. UHC is about giving all people access to quality health services according to need, while also ensuring that the use of these services does not expose the user to financial hardship. Although there is consensus about why and what is needed for UHC, there is debate about how to achieve it. Over the past 40 years, primary health care has been shown to increase access to services, improve service coverage and quality in the most efficient and equitable way, and contribute to financial protection for individuals and households. Many of those involved in global health, including the World Health Organization, consider that primary health care (PHC) is the path towards achieving UHC. There is inadequate evidence on the policy and practice of PHC and its role towards UHC. PHC has been shown to increase access to services, improve service coverage and quality in the most efficient and equitable way, and contribute to financial protection for individuals and households. Many of those involved in global health, including the World Health Organization, consider that primary health care (PHC) is the path towards achieving UHC. There is inadequate evidence on the policy and practice of PHC and its role towards UHC. This project aims to explore and explain the role of PHC towards UHC in countries in the pacific region. A mixed-methods study, based on secondary data, will be conducted to achieve the objective the project in three countries (Australia, Indonesia and Papa New Guinea) with different levels of UHC. The study will use the five domains of the Primary Health Care Performance Initiative conceptual framework to guide the extraction and analysis of quantitative and qualitative data: (i) policy and system; (ii) inputs; (iii) contextual factors (community empowerment and multisectoral action); (iv) service delivery; and (v) outcomes.
Location:	Herston Campus
Expected outcomes and deliverables:	This project will enable applicants to gain key knowledge and skills in systematic review (including data extraction, analysis and synthesis), writing an academic paper, submitting manuscripts for a publication in academic journals, preparing a technical report, and presenting in seminars at the end of their project. They will also learn about big data and its role in health development.
Suitable for:	It is suitable for students considering an MPhil or a PhD study
Primary Supervisor:	Dr Yibeltal Alemu y.alemu@uq.edu.au https://public-health.uq.edu.au/profile/1420/yibeltal-alemu
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: SPH#8	**Adverse cardiovascular events after cancer: systematic review**

Project duration, hours of engagement & delivery mode	Length of project: 6 weeks Hours expected per week: 21 hours Earliest start date: 29/11/2021 Latest finish date: 31/01/2022 COVID-19 considerations: The project can be completed remotely using the systematic review software Covidence and teleconference technology to stay connected.
Description:	People with cancer are at a higher risk of cardiovascular morbidity and mortality than the general population, largely due to exposure to cardio-toxic cancer treatments and shared risk factors (e.g. smoking). There is growing evidence on variations in the incidence of adverse cardiovascular events between populations and the identification of risk factors. There is a need to summarise and synthesise this evidence to guide optimal risk stratification of cancer patients prior to cancer treatment to ensure appropriate monitoring, early detection and timely cardiovascular treatment. We are currently conducting a number of systematic reviews to bring together and assess the current available evidence. The type of tasks students will be required to complete are: developing and conducting search strategies in literature databases; screening papers against eligibility criteria to determine inclusion; extracting data from included research papers; conducting meta-analyses; and supported manuscript writing.
Location:	Herston Campus
Expected outcomes and deliverables:	There are a number of reviews at different stages within this research program. Depending on the student's interest and capabilities, the student would be responsible for: Existing review looking at racial and ethnic variations in the incidence of adverse cardiovascular events after cancer: - Re-run literature searches in multiple databases using an existing search strategy - export records into Endnote and delete the duplicates; - import Endnote records into Covidence - screening titles, abstracts and full text using existing eligibility criteria Existing review on behavioural factors associated with adverse cardiovascular events after breast cancer - extract data from included articles into summary tables, - conduct a meta-analysis - draft the results of the meta-analysis New review on patient-health professional communication about cardiovascular risk and cancer treatment - develop and run a search strategy for multiple literature databases - import records into Endnote and remove duplicates - import Endnote records into Covidence - develop the inclusion/exclusion criteria - screen titles and abstracts for eligibility - draft the method section of the manuscript (optional)

Suitable for:	This project is open to students with an interest in the topic, who have good organisational and communication skills, and excellent attention to detail. Prior experience with database searches, Endnote, or Covidence, and manuscript writing is beneficial but not necessary. The project would be most suitable for MPH and MEpi students, especially if considering a PhD or honours and final year undergraduate students, especially if considering further HDR study. Other students may apply. Please contact Dr Abbey Diaz to arrange a time to discuss the project prior to submission to discuss the projects. Aboriginal and Torres Strait Islander students are strongly encouraged to apply.
Primary Supervisor:	Dr Abbey Diaz abbey.diaz@uq.edu.au ; abbey.diaz@menzies.edu.au School of Population Health, Cardio-oncology
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Child Health Research Centre

Project title: CHRC#1	**Assessment and diagnosis of fetal alcohol spectrum disorder**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 28/01/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	Project 1: We are currently undertaking a project to revise the national clinical practice guidelines for the assessment and diagnosis of fetal alcohol spectrum disorder (FASD). This project would involve assisting with collecting information from practitioners around the country (i.e. paediatricians, psychiatrists and allied health professionals) regarding their current assessment and diagnostic practices and use of the clinical practice guidelines. Project 2: We have a UQ assessment and diagnostic clinic that is collecting data on a wide range of neurodevelopmental and physical outcomes of children with prenatal alcohol exposure (4-17 yrs). There are multiple options for students associated with the clinic database that we have available depending on student interest. One placement is available, and scholars can nominate a preference for either project.

Location:	Child Health Research Centre, South Brisbane
Expected outcomes and deliverables:	Project 1: online survey development, participant recruitment, data analysis, contribute to a publication Project 2: data collection, data entry, data analysis, contribute to a publication
Suitable for:	Students interested in learning about fetal alcohol spectrum disorder
Primary Supervisor:	Dr Natasha Reid n.reid1@uq.edu.au https://child-health-research.centre.uq.edu.au/research/developmental-programming-disease
Primary contact, if not supervisor	-
Further info:	The supervisor CAN be contacted by students prior to submission of an application This project is located on a hospital site. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required. A Working with Children Blue Card may be required.

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Project title: CHRC#2	**Air quality and children's lung outcomes: the role of environmentally persistent free radicals as a household exposure source**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Parts of the project can be delivered remotely if scholar cannot access the location

Description:	Background Epidemiological links between exposure to air pollution, both traffic related air pollution and indoor air pollution, and adverse respiratory, cardiovascular, and neurodevelopmental outcomes are strong, but the mechanism(s) involved remain obscure. A newly recognised combustion by-product, environmentally persistent free radicals (EPFRs), may be the missing link between exposure and non-communicable diseases. Adverse exposure in early life appears to be especially detrimental, but decades of study are often required to provide evidence. EPFRs persist in both the environment and in biological systems for prolonged periods. Data from experimental studies in animals or human cells in vitro demonstrate adverse effects of EPFRs on multiple body systems, including the respiratory tract. EPFRs induce neutrophilic inflammation in the lungs in animal models. Neutrophils generate superoxide and hydrogen peroxide, then use the enzyme myeloperoxidase (MPO) to convert hydrogen peroxide to an array of ROS, including hypochlorous acid (HOCl), hypothiocyanous acid, and radicals such as those from urate and tyrosine. Importantly, EPFR have been measured in house dust making EPFR a common, but poorly understood, household exposure. This project aims to identify the determinants of EPFRs in house dust and the relative importance of various household pollutant sources. Further, we will examine the association between EPFR and lung outcomes in primary school aged children in Brisbane. Project This study is a clinical epidemiological study involving visits to participants homes (twice, once in summer and once in winter) to measure air quality inside and outside the home. Samples of household dust and vegetation are collected to test for the presence of EPFRs. Lung function is measured, and a urine sample collected to test for markers of oxidation in the lung. Statistical models will be developed to determine the pollutant sources that best predict EPFR in the home, as well as test the association between EPFRs and adverse lung outcomes.
Location:	Child Health Research Centre, South Brisbane
Expected outcomes and deliverables:	The successful student will gain skills in data collection and management, the use of environmental monitors to measure air quality, and basic statistical techniques. This project provides exposure to both clinical research skills and environmental epidemiology, giving a broad range of new knowledge to aspiring research students. Further, the student will have the opportunity to assist in processing samples from the study in our laboratory. The student will be integrated into the CHEP team and gain mentorship and networking opportunities as they complete the project. Basic skills in the statistical software R will be gained, as the student will prepare reports and assist in preliminary data analysis. The student will assist in producing a draft of a research paper reporting our findings. At the end of the project, the student will be asked to present a short overview of the project at a team meeting.
Suitable for:	Students interested in epidemiology, environmental health, public health and/or children's health. Some basic knowledge of statistics, epidemiology or coding is beneficial.

Primary Supervisor:	Dr Dwan Vilcins d.vilcins@uq.edu.au Children's Health and Environment Program
Further info:	The supervisor MUST be contacted by students prior to submission of an application This project is located on a hospital site or includes patient/children contact. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required. A Working with Children Blue Card will be required.

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Project title: CHRC#3	**Investigating genetic risk factors for sleep problems in adolescents and young adults**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021 Latest finish date: 31/01/2022 COVID-19 considerations: advice pending.
Description:	Problems with sleep are common in the population and have been linked to a number of negative outcomes including depression, anxiety and cardiovascular disease. Like most other traits, sleep problems have a strong genetic component that is not well understood. Recent studies in adult populations have identified a number of genetic variants that predispose to sleep problems. Initial studies have found that many of these genetic risk factors are shared with both psychiatric and physical disorders. It is not yet known to what extent these genetic risk factors also predispose to poor sleep in adolescents and young adults. The aim of this project is to investigate the role of genetic risk factors in sleep problems in adolescents aged 14 and young adults aged 21 and their persistence between these ages using data from the Mater-University of Queensland Study of Pregnancy (MUSP). DNA samples have been collected from a subsample of the study. Using data from previous large genetic studies of sleep problems, psychiatric disorders and cardiovascular disease, genetic risk scores that index an individual's genetic liability to a disorder will be calculated and to investigate the contribution of genetics to sleep problems in young people and the association with outcomes in later adulthood.
Location:	Child Health Research Centre, South Brisbane
Expected outcomes and deliverables:	It is hoped that the student will contribute to a publication at the end of the project and give an oral presentation. This project makes use of a large dataset that has already been collected. It is an opportunity for students to advance their data science and informatics skills. This includes data cleaning, statistical analysis and operating in a High-Performance Computing environment. Furthermore, students will learn about how genetic data is collected, stored and analysed and how genomics may potentially be utilised in clinical settings in the future.

Suitable for:	This is a dry lab project and hence does not involve collecting data from patients or performing experiments in the lab. This project is suitable for students who have at least basic knowledge of statistics and who have an interest in data science and its application in medical research. It is most suited to those who already have experience in data analysis using an open-source statistical language such as R or Python. Likewise, experience of working in a UNIX/Linux environment would be an advantage. This project would be highly beneficial for any student thinking of pursuing a PhD in medical genetics, bioinformatics or another quantitative field.
Primary Supervisor:	Dr Enda Byrne enda.byrne@uq.edu.au Child and Youth Mental Health Group
Further info:	The supervisor MUST be contacted by students prior to submission of an application This project is located on a hospital site. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required. A Working with Children Blue Card may be required.

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Project title: CHRC#4	**Assessment of core psychopathology, co-morbidity and family functioning in children and adolescents with eating disorders**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 25 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	Eating disorders can be complex mental health conditions with severe physical and psychological sequelae. Evidence-based treatments exist for eating disorders, although non-response and relapse remains a challenge. The co-morbidity of psychological disorders is high in this population, and can present a barrier to treatment. Comprehensive assessment is important to determine similarities and differences in core psychopathology and co-morbidity across the eating disorders (e.g., Anorexia Nervosa, Bulimia Nervosa, Atypical Anorexia Nervosa). Increased understanding of the clinical presentation within and across diagnoses in child and youth with eating disorders may suggest at novel treatment predictors and moderators, and help generate hypotheses for novel treatment additions/modifications that may improve outcomes. The aim of the current project is to investigate the core eating-disorder psychopathology, co-morbidity and family functioning among children and adolescents engaged in treatment at the Child and Youth Mental Health Service Eating Disorders Team (EDT). The project will use data from the newly established clinical assessment registry at the EDT, to describe similarities and differences in psychopathology among subtypes in this population. There is scope for the student to develop and evaluate their own hypothesis if suitable and approved.
Location:	Eating Disorders Team,

	Child and Youth Mental Health Service, Curd St, Greenslopes
Expected outcomes and deliverables:	It is hoped that the student will contribute to a publication at the end of the project. This project makes use of an established dataset that has already been collected although there is the opportunity to be involved in further data collection. It is an opportunity for students to advance their data science and research skills. This includes data cleaning, statistical analysis and generating and testing hypotheses. Furthermore, students will learn about how eating disorders are assessed, how this information is used to guide clinical practice.
Suitable for:	This project is suitable for students who have at least basic knowledge of statistics and who an interest in data science and its application in clinical research. It is most suited to those who already have experience in data analysis using SPSS. This project would be highly beneficial for any student thinking of pursuing a research or clinical career in eating disorders.
Primary Supervisor:	Prof Christel Middeldorp c.middeldorp@uq.edu.au Child & Youth Mental Health Research Group
Further info:	The supervisor CAN be contacted by students prior to submission of an application This project is located on a hospital site or includes patient areas. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required. A Working with Children Blue Card may be required.

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Project title: CHRC#5	**Investigating needs and costs associated with Traumatic Brain Injury in Children**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending
Description:	Program background: Concussion is a common diagnosis in childhood and can lead to long-term problems that impede returning to school and sport participation. Over the last decade, researchers and healthcare providers have increasingly realized the significant morbidity associated with concussion. Once thought to be a “trivial” injury, the healthcare needs are increasingly recognized as well as the potential short-falls in healthcare systems. Although some rehabilitation interventions are time- and resource-intensive, there are also cheaper intervention strategies that can help the majority of children. As part of our program to improve the outcome of childhood concussion and traumatic brain injury throughout Queensland, the aim of this summer research project is to investigate its healthcare needs and associated costs in Queensland children. We hypothesize that there will be considerable heterogeneity in the services children receive and that there will be considerable sociodemographic variability with children in poorer and more remote areas being at risk of

	not receiving both low cost (education) and intervention (high cost) strategies they need. Approach: The successful candidate will be part of a healthcare utilization team (neurologist, physiatrist, economist, and allied health professionals), investigating needs and costs associated with Traumatic Brain Injury in Children. A funded cross-sectional study is already underway and data has been collected from over 100 participants. The student project will be vital to the program and will focus on mild TBI and concussion.
Location:	Child Health Research Centre, South Brisbane
Expected outcomes and deliverables:	During this 6-week summer project, the student will help collate and analyze health service utilization and outcome data on children with TBI, focusing on mild injuries. This topical project has the potential to inform local and national governing bodies. The successful applicant(s) will gain unique experience in methodologies to assess health service utilization and associated economic costs. We expect the student to be able to analyze data (with supervision and help) and assist in producing a working draft of a research paper focusing on mild TBI and concussion.
Suitable for:	Student in biomedical science or public health
Primary Supervisor:	Prof Karen Barlow Acquired Brain Injury in Children (ABiC) research group
Primary contact, if not supervisor	Hema Moench, ABiC Program Manager h.moench@uq.edu.au
Further info:	Contact with supervisor prior to application is not required This project is located on a hospital site or includes patient areas. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required. A Working with Children Blue Card will be required.

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Project title: CHRC#6	**Aetiology and risk factors for cerebral palsy in a prospective, longitudinal cohort study of Australian children**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: This project cannot proceed if scholar cannot access the location
Description:	In Australia, 420 infants are diagnosed with cerebral palsy (CP), making it the most common physical disability arising in childhood. The rate of CP is declining in Australia, from about 2.0 per 1000 live births in 1995-1996 to 1.4 per 1000 live births in 2013-2014 birth years. Much of this decline can be attributed to improved neonatal care for children born very and extremely preterm. For example, from 1995-1996 to 2013-2014, the rate of CP in extremely preterm infants declined from 111.7 to 53.4 per 1000 neonatal survivors. Over the same period, there was comparatively less

	change in the rate of CP in children born at term, however the rate still declined (from 1.3 to 0.9 per 1000 live births). Some risk factors for CP include: preterm birth, history of intraventricular haemorrhage and/or periventricular leukomalacia, perinatal stroke, congenital cytomegalovirus infection, hypoxic ischaemic encephalopathy, and multiple gestation, etc. It is important to understand risk factors for CP and aetiological processes contributing to its development to ultimately reduce the rate of CP. This project therefore aims to characterise the risk factors for CP and aetiological information in a large group (n=245) of children who participated in the Queensland CP-Child study. This study was a prospective longitudinal cohort study of children diagnosed with CP, born between 2006-2009 in Queensland with data collected at intervals between 1.5 and 5 years. These children were then followed up again at 8-12 years of age in the PREDICT CP study. The objective of this project is to identify and report on the perinatal risk factors for CP and potential aetiology of CP in CP-Child participants. This information may assist researchers, clinicians and families to identify children who are at risk of developing CP as early as possible, and potentially contribute to efforts to further reduce the rate of CP.
Location:	Centre for Children's Health, South Brisbane
Expected outcomes and deliverables:	The Summer Research Scholar will perform a detailed chart review to identify and record all risk factors and potential aetiological processes for study participants. Information will need to be triangulated and cross-checked across multiple sources, for example study databases, brain MRI reports, physician chart notes, and clinical records. The scholar will need to physically attend the Centre for Children's Health Research (QCH campus, South Brisbane) to complete this project to work with both physical and electronic files. The Scholar can expect to significantly expand their knowledge in perinatal risk factors for CP. They will gain valuable skills in chart review, data cleaning, and data entry/synthesis. For suitably qualified scholars, there may be the opportunity to contribute to the write-up of the results for a manuscript for a journal article.
Suitable for:	This Summer Research Scholarship is suitable for Scholars with diverse backgrounds including Medicine/pre-medicine, biomedical science, neurology, allied health, physiotherapy, occupational therapy, and radiography/medical imaging. The Scholar will be expected to rapidly learn background information and terminology relevant to cerebral palsy, neonatology, perinatal maternal and infant health, and brain imaging (especially MRI and cranial ultrasound). Pre-existing knowledge of and/or a strong interest in this area is highly desirable. The Queensland Cerebral Palsy and Rehabilitation Research Centre (QCPRRC) is led by Professor Roslyn Boyd. Prof Boyd has over >305 publications (254 in last 5 yrs.) and is ranked the number 1 author internationally in the field of "Cerebral Palsy, child, Hemiplegia" in the last 10 years with over 8310 citations. Scival Nov 2019. Full details of Prof Boyd's published work can be found via Orcid. http://orcid.org/0000-0002-4919-5975 and at (Researcher ID: A-4498-2011). Research undertaken at

	QCPRRC is world-leading and student work is highly regarded internationally.
Primary Supervisor:	Dr Andrea Burgess a.burgess@uq.edu.au and Dr Sarah Reedman (primary contact) s.reedman@uq.edu.au https://qcprrc.centre.uq.edu.au/
Further info:	The supervisor CAN be contacted by students prior to submission of an application This project is located on a hospital site or includes patient areas. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required. A Working with Children Blue Card may be required.

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Centre for Health Service Research

Project title: CHSR#1	**Global Drug Survey: Analysis of data from the world's largest survey of drug use (2013-2021)**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 32 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	The Global Drug Survey is the world's largest survey of drug use. We have annual data spanning 2013-2021 (with over 500,000 records), including from a special 2020 COVID-19 survey. Each year, respondents from over 30 countries have completed survey on their drug use (ever, last 12 months and last 30 days). We have data on over 100 different types of drugs: on the less typical drugs (e.g., ketamine, and many Novel Psychoactive Substances) and the more common drugs, for example cocaine, methamphetamines, cannabis and synthetic cannabis, and alcohol. If you are interested in drug and alcohol research, this project is for you.
Location:	Herston campus
Expected outcomes and deliverables:	- Conduct a literature search - Create an endnote library - Draft a literature review - May include data cleaning and preparation - May include descriptive data analysis - May include Big Data analytics
Suitable for:	This project is best suited to students with an interest in alcohol and other drug research and policy, with strong academic writing skills and quantitative analysis skills
Primary Supervisor:	A/ Prof Jason Ferris j.ferris@uq.edu.au https://chsr.centre.uq.edu.au/research/substance-use-and-mental-health

Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#2	**Impact of COVID-19 on Opioid Prescriptions in Australia**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 28 to 36 hours Earliest start date: 6/12/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	The COVID-19 pandemic has impacted the management of non-communicable diseases in health systems around the world. This project aims to understand the impact of COVID-19 on opioid medicines dispensed in Australia. The number of prescriptions supplied over time will be investigated across different states, age groups, genders and concessional patient categories to see how the impact of COVID-19 varied across the groups. This research is a secondary analysis of administrative datasets capturing all prescriptions provided through Australia's government subsidised medicines program, the Pharmaceutical Benefits Scheme (PBS). Medicines relevant to the topic will be identified through the PBS item codes and the Anatomical Therapeutic Chemical (ATC) codes. The observed change in consumer behaviour prompted by COVID-19 and the resulting public health measures is important to understand in an effort to improve management of medicines supply during potential future waves of COVID-19 and other pandemics.
Location:	UQ Oral Health Centre, Herston
Expected outcomes and deliverables:	1. Applicants will learn about Australian and international medicine classification systems Applicants will identify relevant medicines using Australia's Pharmaceutical Benefits Scheme (PBS) codes and the World Health Organization's Anatomical Therapeutic Chemical (ATC) codes. 2. Applicants will further develop quantitative data analytical and data visualisation skills Applicants will use software such as R or Stata to produce graphs and tables summarising the PBS data to show the impact of COVID-19 on relevant prescriptions dispensed over time. Data will be stratified by geography (e.g. state) and demographics (e.g. gender, age group). Regression methods or other statistical analysis may be utilised to estimate differences in rates over time. 3. Applicants will develop scientific writing skills

	Applicants will contribute to drafting a journal article to publish the results of the analysis. This is an example of an article we've published using the PBS data: https://pubmed.ncbi.nlm.nih.gov/34209616/
Suitable for:	Some experience in quantitative data analysis using either R, Stata, SAS, etc. (e.g. completed STAT1201 or PUBH2007 or PUBH7630)
Primary Supervisor:	Professor Jason Pole j.pole@uq.edu.au Administrative Data Analytics
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#3	**SMART (part of the EMPOWER Project)**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks Hours expected per week: 25 to 35 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	UQ has invested in the SMART Project, (Towards Systematic Maturation of Analytics and System Redesign to Transform) Healthcare and Public Health Research. The vision of this project is to enable a step-change at UQ via a powerful, comprehensive and contemporary health research capability and harness UQ's clinical, public health and data science expertise, and align with our most important health partners – all to One Aim – build infrastructure to drive globally significant research, healthcare innovation and improved patient and population health outcomes over the next decade. A key package of work within this project is to leveraging the vast wealth of data in Queensland Health's burgeoning integrated electronic medical record system, (ieMR) for research purposes; The data transformation from ieMR is planned to be done using the best practice Observational Medical Partnership Outcomes Common Data Model (OMOP). This will enable systematic analysis of disparate observational databases to a standardized vocabulary with minimal information loss. The mapping will be automated using programmed 'scripts' as much as possible however a component will still need to be manually mapped. This mapping requires the expertise of clinicians familiar with medical terminology.

Location:	Herston
Expected outcomes and deliverables:	The medical students will deepen their understanding of electronic medical record systems as well as contemporary data and analytics tools and processes. They will also gain project experience working as valued team members on a cutting edge project.
Suitable for:	Medical students familiar with disparate medical terms
Primary Supervisor:	Professor Clair Sullivan Centre for Health Services Research
Primary contact, if not supervisor	Phil King, Project Director 0420690959 phil.king4@health.qld.gov.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#4	**Evaluating the impacts of digital health maturity across Queensland Health: A qualitative study**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	In our mission to fix and modernise healthcare in Queensland we see data as a powerful and indispensable tool to deliver better health outcomes. Queensland has made significant strides in building a state-of-the-art healthcare IT infrastructure to ensure that the right person has timely access to the right information at the right time to make the right medical decision. We believe that digital health is an enabler of safe, effective healthcare delivery. But digital transformations are complex, involving governance, strategy, a competent (and willing) workforce, courageous leadership, IT infrastructure and resourcing. 'Digimat' is a digital health maturity evaluation study. We have been investigating the impact of advancing digital maturity in our hospital and health services in Queensland. Our goal is to understand what digital maturity means for patients, for clinicians, for the health of the population and for the cost of care. This is a pioneering study as never before has a whole state been assessed for digital maturity; never before have we had the opportunity to correlate digital maturity with outcomes at this scale. This is an excellent opportunity for a Summer Research Program student to be involved in a global research program, working with Queensland Health, UQ, QUT and an international NGO to help uncover the benefits and disbenefits of digital health. The student will be embedded into UQ's Digital Health Research Network, an expanding and exciting new program with membership across Institutes and Faculties, spanning the disciplines

	of health, IT and business. The selected student will undertake a secondary analysis of qualitative data to understand the impacts of digital maturity across Queensland and begin to draw relationships between reported outcomes and variables such as geography and level of digitisation. The data set contains transcripts from 155 interviews conducted with a variety of healthcare staff across the state. Activities during the project include: 1. Conducting qualitative data analysis using software such as Leximancer which uses artificial intelligence to interrogate themes and concepts from large amounts of text data. 2. Search relevant health databases (PubMed, Medline, CINAHL, Embase etc) to relate themes uncovered in Queensland to the literature. 3. Generate a draft manuscript for possible publication in a peer-reviewed academic journal: student will be listed as an author on the resulting manuscript. The project requires good analytical skills and attention to detail. In addition to enhancing those skills, the student can expect to gain the following skills: 1. Formulating and refining research questions. 2. Effective searching of medical literature. 3. Using Endnote as a collaborative tool for managing research bibliography. 4. Using Leximancer to understand large amounts of qualitative data. 5. Academic communication and scientific writing. This project is suitable for anyone with a background in health, business or computer/data science and has an interest in digital healthcare research. This project will be supervised by Dr. Ronald Dendere and Dr. Lee Woods, Research Fellows at Centre for Health Services Research.
Location:	Oral Health Centre, Herston and PA Hospital Campus
Expected outcomes and deliverables:	Activities during the project include: 1. Conducting qualitative data analysis using software such as Leximancer which uses artificial intelligence to interrogate themes and concepts from large amounts of text data. 2. Search relevant health databases (PubMed, Medline, CINAHL, Embase etc) to relate themes uncovered in Queensland to the literature. 3. Generate a draft manuscript for possible publication in a peer-reviewed academic journal: student will be listed as an author on the resulting manuscript. The project requires good analytical skills and attention to detail. In addition to enhancing those skills, the student can expect to gain the following skills: 1. Formulating and refining research questions. 2. Effective searching of medical literature. 3. Using Endnote as a collaborative tool for managing research bibliography. 4. Using Leximancer to understand large amounts of qualitative data. 5. Academic communication and scientific writing.
Suitable for:	This project is suitable for anyone with a background in health, business or computer/data science and has an interest in digital healthcare research. This project will be supervised by Dr. Ronald Dendere and Dr. Lee Woods, Research Fellows at Centre for Health Services Research.

Primary Supervisor:	Dr Ronald Dendere r.dendere@uq.edu.au https://chsr.centre.uq.edu.au/research/clinical-informatics
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#5	**Health service use associated costs among patients with diabetes**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 4/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	Previous studies consistently reported that patients with diabetes had greater use of health services – including outpatient and inpatient hospital – compared to individuals without diabetes. This is mainly due to the numerous complications and comorbid conditions associated with the disease as well as the need for ongoing monitoring and care. The current project aims at assessing hospital service use and associated costs among patients with diabetes and identify predictors of both. The Health Economics Research and Modeling Unit at CHSR has access to Queensland hospitals' service use (outpatient and inpatient) data which will be used for this project. The project's findings will provide policy relevant information on hospital service use and cost implications as well as associated factors. In addition to providing this information, the findings will also serve as important input data for the implementation and scale up of innovative diabetes models of care in the local hospitals.
Location:	Herston (Oral Health Building)
Expected outcomes and deliverables:	Depending on the skill level and interest of students, they will: 1) have the opportunity to improve their data management and analysis skills; 2) be given access to hospital admission dataset and will be assisted to develop confidence and skill in managing, analysing and interpreting health care administrative research data; 3) be guided to write up a manuscript out of their analyses and will also be assisted to disseminate the outputs as journal publication and presentations. The data analysis and interpretation, academic writing and disseminations skills that students will learn during the placement and having a journal publication from this project will contribute to their future graduate studies and/or employability.
Suitable for:	A student with quantitative skill, proficiency in Stata and interest in health care administrative data analysis
Primary Supervisor:	Dr Befikadu Wubishet b.wubishet@uq.edu.au https://chsr.centre.uq.edu.au/research/health-economics-research-and-modelling

Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#6	**Retrospective audit of characteristics of patients seen in a tertiary hospital diabetes telehealth service versus specialist face to face outpatients**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 28 hours Earliest start date: 29/11/2021 Latest finish date: 11/02/2022 COVID-19 considerations: Project can be modified to deliver remotely, or alternative project designed, if scholar cannot access the location
Description:	In Australian regional and remote areas, there is a higher proportion of people with chronic conditions such as diabetes, heart, stroke and vascular diseases. Diabetes-related hospitalisation rates increase with remoteness and socioeconomic disadvantage. People living in these regions have worse health outcomes – the reasons for which are multifactorial, with access to medical care being one of the reasons. People with diabetes who reside in these areas have difficulty in accessing specialist diabetes services, and this could be related to financial, geographical and socioeconomic disparities. The Department of Diabetes and Endocrinology at the Princess Alexandra Hospital (PAH), Brisbane, was one of the early adopters of a diabetes telehealth service (DTS) in 2011. In liaison with the PAH Telehealth Centre, video consultations were commenced for people with diabetes in underserviced areas in Queensland to improve equity of care. To our knowledge, there is limited published evidence reporting the longitudinal characteristics of patients attending DTSs in Australia. The aim of this audit is to describe patient-related characteristics of those attending the DTS at a tertiary specialist centre and compare these with the characteristics of people attending face-to-face visits at the same centre's diabetes outpatient service (DOS). This could be useful to inform DTS service improvements in clinical care. Methods Retrospective audit of all new patients attending the diabetes telehealth service and specialist outpatient service. The patient data will be analysed at 6 and 12 months following initial visit. Data collected will include demographics, type and duration of diabetes, associated co-morbid clinical conditions, HbA1c, blood pressure, lipid profile, weight, body mass index, medications, clinic appointments and discharge details if any. Study Setting

	The PAH DTS caters to 44 regional sites across Queensland including three Aboriginal Medical Services, and is based at the purpose-built centralised PAH Telehealth Centre. Data Collection Data will be collected from electronic Health records at PAH .
Location:	Building 33, Princess Alexandra Hospital
Expected outcomes and deliverables:	The scholar will gain skills relating to data extraction from electronic health record, data analysis, using statistical software and drafting academic articles for publication. Depending upon the contribution, the scholar may have the opportunity to be authored on a peer reviewed journal article. The scholar will be able to attend project meetings to experience the real-world implementation of digital health into health systems for diabetes care. If interested, the scholar might have an opportunity to consider pursuing a higher degree research associated with other possible projects that are either in the planning stage or currently underway such as REMODeL implementation trial in specialist care settings and REMODeL R3 for regional and remote diabetes populations of Queensland.
Suitable for:	This project is suitable for students with a background in any health-related field of study. A background in chronic disease-related fields, public health, biostatistics, and/or digital health will be an advantage.
Primary Supervisor:	Dr Anish Menon a.menon@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: CHSR#7	**A scoping review of qualitative studies of antimicrobial stewardship in the aged care setting**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.

Description:	Antibiotic misuse and overuse is a key driver of antimicrobial resistance (AMR). AMR is a leading threat to healthcare globally and strategies to reduce inappropriate antibiotic use are urgently needed. The successful candidate for this summer project will help conduct a scoping review of qualitative studies relating to barriers and enablers of antimicrobial stewardship (AMS) in the aged care setting. This research will lend support to an ongoing stepped wedge controlled trial of AMS in residential aged care in 18 Queensland residential aged care facilities. The scoping review will highlight the barriers and enablers of AMS in aged care facilities, and make recommendations for optimising antibiotic management in both the Australasian health care setting and internationally.
Location:	Building 33, Princess Alexandra Hospital
Expected outcomes and deliverables:	Scholars will gain skills in conducting a robust scoping review, data extraction and analysis, critical appraisal and academic writing. The scholar will also assist with some thematic analysis of transcripts from AMS team interviews at local aged care facilities (relating to barriers and enablers of AMS). It is expected that with supervision and guidance from the research team at the time of completion of this placement the scholar will have helped produce a manuscript (and be listed as a co-author) suitable for publication in a relevant high-quality journal.
Suitable for:	Although not essential students with some background in writing and reviewing journal articles will be well placed to work in this role
Primary Supervisor:	Dr Nazanin Falconer n.ghahremanfalconer@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: CHSR#8	**Side effects of chemotherapy in relation to frailty status**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location

Description:	The incidence of cancer increases with chronological age. Treatments for cancer may cause severe side effects. But the risk of toxicity from chemotherapy is difficult to predict. Frailty is a multifactorial syndrome associated with functional impairment and increased vulnerability to disease, disability, and mortality. Frail older people may be less able to tolerate cancer treatments compared to older people who are not frail. The aim of this project is to conduct a literature review to understand the risk of side effects of chemotherapy in relation to frailty status in older people. The student will conduct a systematic review of the literature and will draft a manuscript for publication in a peer-reviewed journal.
Location:	Princess Alexandra Hospital
Expected outcomes and deliverables:	The student will learn skills in literature review and academic writing, and will have a journal publication from this project
Suitable for:	This project is open to application from any student with an interest in ageing and geriatric medicine research who wishes to gain skills in conducting literature reviews and academic writing
Primary Supervisor:	Dr Leila Shafiee Hanjani l.shafieehanjani@uq.edu.au Ageing and geriatric medicine
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#9	**Impact of COVID-19 on Sexual Health Prescriptions in Australia**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 28 to 36 hours Earliest start date: 6/12/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	The COVID-19 pandemic has impacted the management of non-communicable diseases in health systems around the world. This project aims to understand the impact of COVID-19 on sexual health medicines dispensed in Australia. The number of prescriptions supplied over time will be investigated across different states, age groups, genders and concessional patient categories to see how the impact of COVID-19 varied across the groups. This research is a secondary analysis of administrative datasets capturing all prescriptions provided through Australia's government subsidised medicines program, the Pharmaceutical Benefits Scheme (PBS). Medicines relevant to the topic will be identified through the PBS item codes and the Anatomical Therapeutic Chemical (ATC) codes.

	The observed change in consumer behaviour prompted by COVID-19 and the resulting public health measures is important to understand in an effort to improve management of medicines supply during potential future waves of COVID-19 and other pandemics.
Location:	UQ Oral Health Centre, Herston
Expected outcomes and deliverables:	1. Applicants will learn about Australian and international medicine classification systems Applicants will identify relevant medicines using Australia's Pharmaceutical Benefits Scheme (PBS) codes and the World Health Organization's Anatomical Therapeutic Chemical (ATC) codes. 2. Applicants will further develop quantitative data analytical and data visualisation skills Applicants will use software such as R or Stata to produce graphs and tables summarising the PBS data to show the impact of COVID-19 on relevant prescriptions dispensed over time. Data will be stratified by geography (e.g. state) and demographics (e.g. gender, age group). Regression methods or other statistical analysis may be utilised to estimate differences in rates over time. 3. Applicants will develop scientific writing skills Applicants will contribute to drafting a journal article to publish the results of the analysis. This is an example of an article we've published using the PBS data: https://pubmed.ncbi.nlm.nih.gov/34209616/
Suitable for:	Some experience in quantitative data analysis using either R, Stata, SAS, etc. (e.g. completed STAT1201 or PUBH2007 or PUBH7630)
Primary Supervisor:	Prof Jason Pole j.pole@uq.edu.au Administrative Data Analytics, Centre for Health Services Research
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#10	**Telehealth uptake on the MBS in different states and territories**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 21 to 28 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: COVID – Social distancing is possible in the location. The project can be completed remotely if required, or shortened/ modified if required.

Description:	The use of telehealth in Australia increased after new temporary MBS item numbers were introduced to enable virtual care during the coronavirus pandemic. Dr Snoswell has been working with publicly available MBS data since the pandemic started in March 2021 to characterise telehealth use across Australia. The UQ Centre for Online Health (COH) has been publishing telehealth statistics on its website each month. This can be viewed here: https://coh.centre.uq.edu.au/telehealth-and-coronavirus-medicare-benefits-schedule-mbs-activity-australia This project will involve data analysis to examine telehealth uptake for each state and territory in Australia for 2019-2021. Depending on the skills of the student applying there may be an opportunity to perform regression analysis to examine the trends, or interrupted time-series analysis to examine the effect of the lockdowns. Given the volume of data that will need to be handled for this project students with post-graduate training or statistical experience are desired. This project will not be based in the hospital but at UQ CHSR, and will be very data focused. Days, hours and commence/finish dates can be negotiated, however a minimum of 3 days in the office each week will be required.
Location:	UQ CHSR, Princess Alexandra Hospital
Expected outcomes and deliverables:	Students will assist was data analysis and literature review. It is expected that the results will be used to craft a report for our collaborators, and potentially a conference abstract or publication in the future.
Suitable for:	Students who are interested in health economics, health service delivery, data analysis, writing and literature review procedures. Advanced statistics or data analysis skills are desirable but not essential. Our team is very interested in hosting students who are interested in undertaking a PhD in health economics and health services research focusing on telehealth.
Primary Supervisor:	Dr Centaine Snoswell c.snoswell@uq.edu.au Centre for Online Health, Centre for Health Services Research
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: CHSR#11	**Patient attitudes toward engaging with digital health services: what can social media tell us?**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021 Latest finish date: 4/02/2022 COVID-19 considerations: Social distancing is possible in the location. The project can be completed remotely if required, or shortened/ modified if required.

Description:	Dr Jaimon Kelly is a Senior Research Fellow and Consultant Dietitian at the Centre for Online Health in the Centre for Health Service Research (CHSR). Dr Kelly works in private practice as a consultant dietitian and telehealth specialist. His research program focuses on improving nutrition and lifestyle in chronic disease through improved digital health access, opportunity, and capability. This project will involve assisting Dr Kelly with a project he has designed in collaboration with his telehealth colleagues, specifically, to design and execute a robust search of social media and online forums where people may share unique insights, attitudes, experiences and perceptions on engaging with digital and telehealth services. You will extract this data into appropriate software and analyse it. Depending on the available data, this summer scholars project may focus on one particular platform, or a variety of these. This project will have a general health focus and will not be restricted to a specific discipline. This project will offer the student the opportunity to contribute to the design and procedures and therefore, you will be required to problem solve and think creatively and share your ideas regularly. This project will be based at UQ CHSR, located at Princess Alexandra Hospital, and will be very data focused.
Location:	UQ CHSR, Building 33 Princess Alexandra Hospital
Expected outcomes and deliverables:	Students will assist was data extraction, analysis and literature review. It is expected that the results will be used to craft a conference abstract or publication in the future. There will be opportunity to lean from other academics and technical assistants in the Centre for Online Health during the project.
	Students interested in digital health and telehealth, patient behaviour, data analysis and writing. Students with great analytical skills is desirable. Students interested in a higher degree in research or a job in research will gain valuable experience from this project. Students with experience writing or reading forums, managing social media pages, organising data in Excel or similar programs, and experience with writing high quality reports is desirable but not essential.
Suitable for:	
Primary Supervisor:	Dr Jaimon Kelly jaimon.kelly@uq.edu.au Centre for Online Health Centre for Health Services Research
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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UQ Centre for Clinical Research

Project title: UQCCR#1	**Effect of multiple rabies booster doses in antibody titre level**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	Rabies is an invariably fatal viral zoonosis in humans. Current Australian guidelines for people who work with bats (e.g. bat handlers, veterinarians) is to receive rabies pre-exposure prophylaxis (PrEP) comprising of three intramuscular vaccines on days 0, 7, and 21-28. People with ongoing occupational exposure to rabies virus (and other lyssaviruses) are recommended to have antibody titres measures every 6-24 months, and if the titres fall below 0.5 IU/mL it is recommended to receive a booster dose.
Location:	UQCCR, Herston
Expected outcomes and deliverables:	The scholar will gain skills in data analysis and will contribute to a publication
Suitable for:	Students with prior knowledge of data analysis. Pre-medical and medical students, and students considering a MPhil/PhD.
Primary Supervisor:	Dr Luis Furuya Kanamori l.furuya@uq.edu.au UQCCR-Paterson group
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: UQCCR#2	**Defining subtypes of cognitive impairment in Parkinson's disease and their relation to Alzheimer's disease**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 25 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	With around 80% of people with Parkinson’s disease developing dementia at advanced stages, cognitive impairment is an intrinsic feature of the disease. This project aims to explore the subtypes of cognitive impairment in Parkinson's disease and their relation to Alzheimer’s disease pathology using systematic review methodology and international data.

Location:	UQCCR, Herston
Expected outcomes and deliverables:	The scholar can expect to gain skills in systematic literature reviews and data analysis. They will contribute to research that will be published in peer reviewed journals.
Suitable for:	This project is open to undergraduate students with a background in medicine, public health and/or psychology.
Primary Supervisor:	Dr Nadeeka Dissanayaka n.dissanayaka@uq.edu.au Dissanayaka Group
Primary contact, if not supervisor	Ms Dana Pourzinal uqdpourz@uq.edu.au
Further info:	Contact with supervisor prior to application is not required

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Project title: UQCCR#3	**Shared decision making in oncology care**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 24 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	This project will be to complete a scoping review of the literature exploring the evidence on shared decision making for oncology patients
Location:	UQCCR, Herston
Expected outcomes and deliverables:	This is an opportunity to learn scoping review methods from an experienced team. It is anticipated that two manuscripts will result from this work. The SRP student will have an a opportunity to be an author on these
Suitable for:	This is open to all students
Primary Supervisor:	Dr Natasha Roberts natasha.roberts@uq.edu.au Prostate Cancer Group UQCCR
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: UQCCR#4	**Novel therapeutic targets and biomarkers for Parkinson's disease**

Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	Parkinson's disease is a debilitating and progressive neurodegenerative disorder that is increasing in prevalence worldwide. There are currently no treatments or biomarkers available for to diagnose the disease or halt its relentless progression. The project will evaluate the therapeutic potential of new targets that we have identified in our research at UQ and also explore their potential as novel biomarkers for early diagnosis.
Location:	UQCCR, Herston
Expected outcomes and deliverables:	This is a laboratory based project with elements of in silico drug discovery work. Training outcomes will include skills in translational research involving molecular biology, gene expression, proteomics, microscopy and cell biology techniques. There is also potential for publication of novel outcomes from the project.
Suitable for:	This project is open to applications from students with a background in biomedical science, pharmacology, chemistry. Given the clinical and translational focus of our research program, pre-medical provisional students and students interested in research for Honours and/or PhD are encouraged to apply.
Primary Supervisor:	Dr Richard Gordon r.gordon1@uq.edu.au Translational Neuroscience Laboratory
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: UQCCR#5	**Evaluation of an online training package for health professionals to support healthy pregnancy weight gain**
Project duration, hours of engagement & delivery mode	Length of project: 6 to 8 weeks Hours expected per week: 24 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location

Description:	A key and consistent barrier to supporting women achieve a healthy weight gain in pregnancy is a lack of health care professional knowledge and confidence to support healthy lifestyles and address the issue of weight with women under their care. In 2020 the Royal Brisbane and Women's Hospital Department of Nutrition and Dietetics in partnership with the Preventive Health Branch, Prevention Division developed an online, flexible delivery health professional training program to support clinicians improve their knowledge and confidence in using pregnancy weight gain charts and support healthy pregnancy weight gain. The aim of this project is to contribute to the evaluation of the Healthy Pregnancy Healthy Baby (https://metronorth.health.qld.gov.au/health-professionals/healthy-pregnancy-healthy-baby), training using the RE-AIM framework through analysis of web analytics and online data capture.
Location:	UQCCR, Herston
Expected outcomes and deliverables:	Scholars will gain experience in data management including cleaning and analysis. It is expected students will contribute to a draft manuscript for publication and a conference abstract at completion of the project.
Suitable for:	Students interested in public health nutrition and evaluation of health professional education. Students with some understanding of data management and/or descriptive statistical analysis or a willingness to learn these approaches. Students considering a PhD.
Primary Supervisor:	Dr Susan de Jersey s.dejersey@uq.edu.au or susan.dejersey@health.qld.gov.au https://researchers.uq.edu.au/researcher/25212
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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UQ Diamantina Institute

Project title: UQDI#1	**Molecular drivers of macrophage inflammatory responses during bacterial infection**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 4/02/2022 COVID-19 considerations: Some data analysis work can be done off-site for a short period if COVID restrictions impact access to the location.

Description:	Macrophages are cells of the innate immune system central to the host defence against bacterial pathogens. The antimicrobial defence mechanisms and inflammatory responses driven by macrophage activation are critical for the ability of the host to control invading pathogens. However, these mechanisms need to be tightly regulated to prevent tissue damage. Knowledge on the molecular mechanisms that drive and control host responses to infection are a prerequisite for identifying opportunities for host-directed interventions, a strategy increasingly considered for the treatment of infections caused by antibiotic-resistant bacteria. This project is aligned with a research program on the discovery of molecular mechanisms that shape macrophage functions upon innate immune receptor activation by pathogenic bacteria. Specifically, the project will characterise intracellular signalling events that govern the production of inflammatory cytokines and regulate the sub cellular localisation of pathogen-sensing receptors. It is envisaged, that outcomes of this project will contribute to the characterisation of thus far unexplored molecular cascades that shape macrophage functions during bacterial infection and beyond.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	- Knowledge of macrophage functions during infection, pattern recognition receptors, and cellular signalling cascades - Hands-@on laboratory experience (e.g. mammalian cell culture, gene and protein expression analyses) - Introduction into Experimental design, data acquisition, data analysis and interpretation - Understanding of scientific literature - Contributions to scientific discussions - Opportunity to present data at group meetings
Suitable for:	Students with prior basic laboratory experience and a keen interest in innate immunity and host-pathogen-interaction
Primary Supervisor:	Prof Antje Blumenthal a.blumenthal@uq.edu.au Infection & Inflammation Group http://researchers.uq.edu.au/researcher/2366
Primary contact, if not supervisor	-
Further info:	The supervisor CAN be contacted by students prior to submission of an application Evidence of vaccination or nonsusceptibility for vaccine preventable diseases will be required for this project

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Project title: UQDI#2	**Mapping genes to cell types through streamlined high throughput Multi-Omics approaches**
Project duration, hours of	Length of project: 8 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021

engagement & delivery mode	Latest finish date: 18/02/2022 COVID-19 considerations: Project can be shortened or modified if scholar cannot access the location
Description:	Cells found in different tissues throughout the body have distinct functions and phenotypes despite possessing the same genome. This differential expression of the transcriptome in tissues can be analysed through methods such as RNA-seq. More refined methods such as scRNA-seq and multiparametric flow cytometry improve the resolution down to a single cell, allowing cellular transcriptomic and proteomics analysis of disease states such as cancer or diabetes, which can help better understand their pathophysiology and lead to potential medication targets.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	1. Get expertise in Single Cell Technologies 2. Software development in R 3. Biomarkers discovery 4. Understanding Cancer Immunology
Suitable for:	- Having basic knowledge of programming in any language (ideally in R) - Basic knowledge of biostatistics - Interest in Bioinformatics and computational immunology
Primary Supervisor:	Dr. Arutha Kulasinghe arutha.kulasinghe@uq.edu.au Prof. Ian Frazer Group
Primary contact, if not supervisor	Dr Ahmed Mehdi a.mehdi@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: UQDI#3	**Investigating the gut microbiota in type 1 diabetes**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be shortened or modified if scholar cannot access the location

Description:	Alterations in the gut microbiota are thought to precede the onset of type 1 diabetes and contribute to the increasing incidence of disease worldwide. Our group is investigating ways to restore a healthy gut microbiota in type 1 diabetes. Using a sterile germ-free mouse model of type 1 diabetes, we are seeking to determine the key elements of the gut microbiota (specific species or metabolites) that can drive disease protection. This project would suit someone with some knowledge of microbiology, immunology or molecular biology.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	The student will gain experience working in stimulating lab environment, using animal models of disease and analysis of the gut microbiota.
Suitable for:	This project would suit someone with some knowledge of microbiology, immunology or molecular biology
Primary Supervisor:	A/Prof Emma Hamilton-Williams e.hamiltonwilliams@uq.edu.au Hamilton-Williams Lab
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: UQDI#4	**Which tumour immunosuppressive pathways prevent natural killer cell activation?**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	Background: Despite advances in treatment and earlier detection, cancer is still a main cause of cancer death worldwide. Natural killer (NK) cells are circulating innate lymphocytes that naturally protect against tumor spread (metastasis), and recently showed by our group as dysfunctional in the tumour microenvironment (TME) established by cancers at distant organs for future metastatic spread. Yet, despite knowing that NK cells do control cancer metastasis, our knowledge of how cancer cells evade NK cell control is still very poor. This project aims to examine several immune suppressive pathways that cancers likely manipulate to avoid NK cells and spread. These include factors the transforming growth factor (TGF)-β superfamily that are elevated in the tumor environment. These molecules have great potential to suppress the normally high killing and anti-metastatic activity mediated by NK cells, but to date we still need to elucidate how relatively important each pathway might be. Proposed research program: The intrinsic NK cell function under suppressive factors stimulation will be assessed with NK cells purified from mouse spleen (wild type) by cell sorter, and in vitro challenge with

	activating cytokines and suppressive factors. Aim-1: Which suppressive factor is a major inhibitor of NK cell killing activity? This aim will be screened by killing activity of NK cells versus target tumour cells in co-culture systems. Aim-2: Which suppressive factor is a major inhibitor of NK cell cytokine secretion? This aim will assess NK cell cytokine production by intracellular cytokine (e.g. IFN-gamma) staining (flow cytometry) and secreted IFN-gamma, among others, from culture supernatants (ELISA); Aim-3: What is the cellular signalling status under suppressive conditions? The identification of altered cellular signalling will be screened by intracellular staining of phosphorylated signalling molecules by PhosphoFlow. These experimental tools will determine which is the most important suppressive pathway in inhibiting NK cell functions. Information we obtain from this work will allow us to design rationale approaches to increase NK cell function in personalised immunotherapy approaches.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	Scholars may gain skills in data collection, contribute to a publication, produce a report or give an oral presentation at the end of their project
Suitable for:	This project is open to applications from students passionate for immunology and cell biology, with a background in chemistry, biomedical sciences, and students considering honours or a PhD
Primary Supervisor:	Dr. Fernando Guimaraes f.guimaraes@uq.edu.au https://di.uq.edu.au/research/guimaraes-group
Further info:	The supervisor MUST be contacted by students prior to submission of an application Evidence of vaccination or nonsusceptibility for vaccine preventable diseases will be required for this project

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Project title: UQDI#5	**How do drugs get into Mycobacterium tuberculosis?**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be shortened or modified if scholar cannot access the location

Description:	Tuberculosis is the leading global cause of death due to infection with a bacterial pathogen. Treatment of tuberculosis represents a therapeutic challenge not only because of the naturally high resistance of Mycobacterium tuberculosis (Mtb) to antibiotics, but also because of poor penetrance of TB antibiotics across the Mtb cell wall. This project will define molecular models of the binding site for current TB antibiotics and promising new antimicrobial leads based on mutagenesis studies performed on bacterial transport proteins. Outcomes of this project will deliver new insights into how antibiotics are transported across the mycobacterial cell wall, which may be exploited for enhancing the potency of available or new TB antibiotics to address the urgent need for improved treatment of drug-susceptible and drug-resistant tuberculosis.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	- Detailed knowledge of bacterial transporters and their role in Mycobacterium tupberculosis pathogenesis and drug susceptibility - Hands-@on laboratory expertise in molecular microbiology - computer-@based visualization of protein structures and binding analysis - Experimental design - Introduction into data collection, analysis, interpretation
Suitable for:	Students with basic lab skills and a keen interest in acquiring microbiology expertise pertinent to a significant human pathogen
Primary Supervisor:	Dr Giorgia Mori g.mori@uq.edu.au Antje Blumenthal group
Primary contact, if not supervisor	Prof. Antje Blumenthal a.blumenthal@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: UQDI#6	**GLACIER: A web interface for visualising gene set annotation enrichment for single-cell RNA seq data**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.

Description:	The widespread use of gene sequencing technologies has led to the creation of online databases, e.g. the Molecular Signals Database (MSigDB) for storing experimental results. By searching through these databases with a list of differentially expressed genes, researchers can find studies describing similar sets of genes, and thus gain an idea of the enriched pathways or functions. However, there are two major limitations to this approach: firstly, the terms of interest, which could vary between researchers, must be extracted from each individual study; and secondly, the extraction and statistical calculations must be repeated for each subsequent search. We have developed an initial web-based tool (GLACIER) to calculate the enrichment of these terms of interest, henceforth called 'annotations'. This allows users to create, store and distribute lists of gene sets and their annotations for use in the tool, and to perform their analyses without learning how to use any statistical software. The student involved in this project will further develop on this application to incorporate and integrate datasets from different technologies. The student will learn and use R to further develop this software, test and compare different genomics datasets. The datasets will include single-cell RNA seq data from autoimmune diseases and cancers.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	The student will be supervised/mentored by a senior biostatistician in our lab. 1. Learning R programming 2. Developing Biostatistics framework for single-cell data 3. Understanding Computational Immunology 4. Predicting cancer biomarkers
Suitable for:	1. Basic knowledge of statistics & mathematics 2. Basic programming skills (will prefer student with good programming skills) 3. Passionate to learn bioinformatics and biostatistics 4. Current medical students, pre-medical provisional students, students considering MPhil or PhD or students considering doing their semester/hons project in our lab
Primary Supervisor:	Prof. Ian Frazer i.frazer@uq.edu.au Frazer Group
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: UQDI#7	**Autoimmunity in children with type 1 diabetes**
Project duration, hours of	Length of project: 8 weeks Hours expected per week: up to 36 hours Earliest start date: 29/11/2021

engagement & delivery mode	Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	Type 1 diabetes (T1D) is the most common chronic disease of childhood. It is triggered by an immune dysregulation causing T cells to attack the insulin-producing islet beta cells in the pancreas. This results in elevated blood-glucose and severe life-long complications. Our laboratory aims to develop a T cell targeted immunotherapy to prevent or treat T1D. For this goal to be successful, better tools are needed to detect and characterise islet-specific T cells in patient blood as a way to monitor responses to immunotherapy. This project aims to understand how T cell responses vary between different patient groups to develop an approach to personalised immuno-monitoring. The project uses state-of-the-art high-parameter immune profiling, single cell sequencing and clonal analysis of islet-specific T cells in patient blood. These techniques are applicable to immunomonitoring of a broad range of immune responses: in autoimmune diseases, cancers, infections and after vaccination.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	Students will gain skills in in vitro human immunology, and/or bioinformatic analysis. They will produce a report , give an oral presentation and may contribute to a publication
Suitable for:	Pre-med provisional students and students considering Honours or PhD degrees. The ideal candidate will have prior knowledge and academic achievement in the field of immunology. Coding in R or practical experience in experimental immunology would be desirable if wishing to undertake a project in bionformatics
Primary Supervisor:	Prof Ranjeny Thomas ranjeny.thomas@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application Evidence of vaccination or nonsusceptibility for vaccine preventable diseases will be required for this project

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Project title: UQDI#8	**Genome-wide survival analysis of type-1 diabetes progression in high-risk children**
Project duration, hours of engagement & delivery mode	Length of project: 8 to 10 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.

Description:	Type 1 diabetes (T1D) is a chronic autoimmune disease that leads to the destruction and dysfunction of insulin producing beta cells. The National Diabetes (US) report states that more than 10 million people have been affected in America and increasing numbers of individuals are developing T1D annually in Australia as well. The clinical presentation of T1D is preceded by a prodromal period that can last from months to years post birth and is usually characterized by the production of islet autoantibodies, reflecting damage to beta cells. Infiltration of the pancreas by self-reactive lymphocytes and destruction of beta cells results in metabolic abnormalities, including impaired glucose tolerance, reduced insulin production and eventual hyperglycaemia. Gene expression profiling is widely used to obtain a global picture of cellular events under different physiological conditions. Unfortunately, few experiments have measured temporal changes at the molecular level occurring in situ in individuals at risk of T1D. We have access to BABYDIET, DAISY, DIPP and TEDDY gene expression cohorts and have written scripts in R to analyse such data. We have recently found autoantibodies associated signatures at/near birth of at-risk T1D children (See Mehdi et al. JCI Insight). In another unpublished study, we further found T1D progression is predictable at/near seroconversion. Therefore the aim of this study is to perform genome-wide survival analyses using genes that are differentially expressed in children who develop islet autoantibodies and T1D progression.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	The expected outcomes of this project are (1) to enhance understanding of the etiology of T1D through data integration. (2) Understanding Cox-proportional hazard ratios and Kaplan Meier survival analyses. (3) Investigating the optimal expression cut-points of T1D associated genes using regression trees analyses.
Suitable for:	- Students with Intermediate computer programming skills. - Interest in Biostatistics, Bioinformatics and Computational Immunology - Suitable for Pre-medical provisional Students, Students considering a MPhil/@PhD/@Semester projects.
Primary Supervisor:	Prof Ranjeny Thomas ranjeny.thomas@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: UQDI#9	**Person-centred lifestyle resilience program in rheumatoid arthritis**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: up to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022

	COVID-19 considerations: advice pending.
Description:	Good mental health and healthy lifestyle behaviours are integral components of successfully self-managing rheumatoid arthritis (RA). This study will assess the impact, fidelity, feasibility, acceptability, and safety of a novel person-centered multicomponent wellbeing and lifestyle intervention for adults with RA. People with RA will be recruited from a hospital clinic and randomly allocated to receive either the program or usual care. Small group and individual sessions will be conducted outside the hospital setting over 20 weeks. The program starts with psychological resilience training to address the emotional impact of RA diagnosis and onset, and then transitions to healthy lifestyle support including supervised exercise training, nutrition counselling, behaviour change counselling and smoking cessation. The healthy lifestyle components will be individually tailored based on assessments of each participant's lifestyle habits, interests, contexts and opportunities. To evaluate the program, assessment will be done before and one month after the program, and will include physical measures, activity monitoring and questionnaires to determine change in wellbeing, physical activity, dietary intake, weight, and physical functioning. Participant attendance and experiences of the program will be evaluated by session records and questionnaires.
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	It is anticipated the 20-week program will run in the second half of 2021, with some sessions still running by the commencement of the summer program. Students will gain skills in clinical implementation research, including data collection, database creation, data entry, analysis. They will produce a report, give an oral presentation and may contribute to a publication. Students may also gain skills in communicating with patients.
Suitable for:	Pre-med provisional students and others interested in clinical careers, especially students with a background in allied health professions
Primary Supervisor:	Prof Ranjeny Thomas ranjeny.thomas@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application Evidence of vaccination or nonsusceptibility for vaccine preventable diseases will be required for this project

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Project title: UQDI#10	**Myeloid cells in inflammation and immunity**
Project duration, hours of engagement & delivery mode	Length of project: 7 weeks Hours expected per week: 30 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be shortened or modified if scholar cannot access the location

Description:	Myeloid cells are vital innate immune cells that are functionally diverse and perform variety of functions during infection, inflammation and cancer. In this project, we ask that how does inflammatory signalling pathways contribute to myeloid cells-mediated immune responses and tissue homeostasis. Understanding and elucidating the signalling mechanisms in myeloid cells will provide us important clues to target underlying inflammatory conditions in chronic diseases and cancer. Specific aims of the project are to a) Study inflammatory signalling pathways in myeloid cells b) Decipher immune responses generated by myeloid cells upon stimulation
Location:	UQ Diamantina Institute, Translational Research Institute
Expected outcomes and deliverables:	Students will gain experience in research laboratory skill and techniques, such as tissue culture, in vitro assays, immunohistochemistry and Western Blot. Students will also develop the essentials skills required in science, such as protocol writing, data analysis, figure preparation and presentation, critical thinking etc.
Suitable for:	This project is suitable for students with a background in Biomedical Sciences and to the student who would like to follow a path to HDR
Primary Supervisor:	Dr Snehlata Kumari s.kumari@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: UQDI#11	**Evaluating health and disease associations of the human gut microbiome through an evidence-based medicine framework**
Project duration, hours of engagement & delivery mode	Length of project: 6 to 10 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be delivered remotely
Description:	A growing body of global research indicates that the human gut microbiome plays a central role in health and disease. Due to the complexity of interactions and emerging body of evidence, the clinical applicability of interventions is not well understood. This project aims to assess the available evidence for: 1. the current state of health and disease associations with gut microbiome markers; and 2. interventions that may improve the gut microbiome; and apply evidence-based medicine (EBM) frameworks to grade the strength of evidence. Key tasks include:

	• conduct systematic reviews of scientific literature for interventions and associations with health conditions • application of EBM tools to critically evaluate and grade the strength of evidence including Levels of Evidence and Risk of Bias tools • read, interpret and critically evaluate microbiome literature
Location:	Microba Life Sciences Head Office, Queen St, Brisbane
Expected outcomes and deliverables:	The student will further their existing experience in applying evidence-based medicine (EBM) tools to critically evaluate and grade the evidence for specific questions. Students will produce comprehensive literature reviews and develop graded recommendations for a number of specific questions related to interventions and health associations with the gut microbiome. They will present findings to the Chief Scientific Officer, Senior Scientist and commercial staff of Microba.
Suitable for:	Open to students with experience using evidence-based medicine frameworks and conducting systematic literature reviews, strong statistical backgrounds, and excellent written and oral communication skills
Primary Supervisor:	A/Prof Lutz Krause l.krause@uq.edu.au ; lutz.krause@microba.com https://www.tri.edu.au/staff/lutz-krause
Primary contact, if not supervisor	Tim Dwyer tim.dwyer@microba.com ; 0405 474 772
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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QIMR Berghofer Medical Research Institute

Project title: QIMRB#1	**Prolonging survival in brain cancer by targeting slow-dividing cells**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but the supervisor will try to modify depending on restrictions to the location
Description:	Glioblastoma (GBM) is the most common and malignant primary brain tumour in adults. GBM is deadly because of resistant glioma stem cells that reconstitute the tumour after treatment. Glioma stem cells resist chemotherapy in part because they are quiescent (slow-dividing), whereas chemotherapy primarily targets fast-dividing cells. In this project we will test targeted molecules to inhibit quiescence, forcing glioma stem cells to divide during chemotherapy to prevent tumour recurrence.

Location:	Sid Faithfull Brain Cancer Laboratory QIMR Berghofer, Herston
Expected outcomes and deliverables:	Applicants can expect to gain experience in tissue culture, microscopy, data analysis and to deepen their understanding of brain cancers
Suitable for:	Applicants who are enthusiastic about the project and have a good academic record. Experience in a research setting preferred but not required
Primary Supervisor:	Dr Lachlan Harris lachlan.harris@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#2	**Exploring exosomes as potential cancer biomarkers**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but the supervisor will try to modify depending on restrictions to the location
Description:	Our team investigates specific mechanisms in which cancer cells communicate with the environment in order to promote disease progression. In particular, we aim to understand the processes employed by cancer-derived small extracellular vesicles, termed exosomes, to promote the spread of cancer cells from the primary site to distal organs. Additionally, our group analyses the molecular composition of exosomes isolated from the blood of cancer patients, in order to establish innovative cancer-specific signatures that will ultimately improve cancer diagnosis and prognosis.
Location:	Tumour Microenvironment Laboratory QIMR Berghofer, Herston
Expected outcomes and deliverables:	Skills to be learned: general laboratory techniques; cell culture; ultrafiltration and size exclusion chromatography; immunodetection of proteins; experimental data collection and analysis. The student is expected to either write a brief report or deliver a brief oral presentation at the end of the project (to be determined)
Suitable for:	Knowledge of basic aseptic laboratory techniques; cell culture experience is preferred but not essential
Primary Supervisor:	Dr Luize Goncalves Lima Luize.GoncalvesLima@qimrberghofer.edu.au

Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#3	**Harnessing immune-mediated control of blood cancers**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but the supervisor will try to modify depending on restrictions to the location
Description:	Immunotherapy has emerged as a new pillar in cancer treatment. Our research team is investigating how we can improve anti-tumor immune responses against blood cancers. With support from staffs, the student is expected to perform in vitro and in vivo experiments, using blood cancer models.
Location:	Immune Targeting in Blood Cancers Laboratory QIMR Berghofer, Herston
Expected outcomes and deliverables:	In the proposed project, the student will learn basic knowledge in cancer immunology and following research techniques: - cell culture, molecular biology - standard assays in immunology (flow cytometry, ELISA, immunoblots) - animal experiments (including bioluminescence imaging)
Suitable for:	This project is suitable for students who would like to learn basic laboratory skills in life science, particularly in cancer immunology field
Primary Supervisor:	Dr Kyohei Nakamura Kyohei.Nakamura@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#4	**Investigation of dysregulated iron metabolism in cystic fibrosis**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but the supervisor will try to modify depending on restrictions to the location

Description:	Cystic fibrosis is a genetic disease caused by cystic fibrosis transmembrane regulator (CFTR) mutation. CFTR protein is responsible for transporting chloride to the cells and defective CFTR leads to excessive sweat and mucus secretion mainly affecting the lungs. Cystic fibrosis lungs are prone to bacterial infection which could lead to exacerbations. High levels of iron have been reported in airways of cystic fibrosis patients and this is associated with increased bacterial infection in the patients. However, the mechanism of iron dysregulation in CF is not known thus far. Therefore, we aim to understand the mechanism of iron homeostasis in cystic fibrosis. In order to achieve this aim, we have collected all the tissues, serum and bronchioalveolar lavage (BALF) from mice with G551D CFTR mutation and WT mice. The tissues will be subjected for protein and gene expression studies, histology, immunohistochemistry, iron assay and ICP-MS; whereas the serum and BALF will be subjected for cytokine analysis.
Location:	Lung Inflammation and Infection Lab QIMR Berghofer, Herston
Expected outcomes and deliverables:	Applicants can expect to gain experience in molecular biology techniques, microscopy, planning and executing experiments, processing mice tissues, and collection and statistical analysis of tdata. As part of the project, the applicant will be expected to have characterised the mechanism of iron homeostasis in an animal model of cystic fibrosis. These results will be used to generate publication. Hence the student will be receiving guidance on preparation of manuscript from the start of the project.
Suitable for:	Laboratory techniques, scientific writing
Primary Supervisor:	Dr Pramila Maniam and Dr Ama Tawiah Essilfie Pramila.maniam@qimrberghofer.edu.au Ama.Essilfie@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#5	**Feasibility of mapping individual electroencephalography to neuroanatomical sources across children and adolescents**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location

Description:	Background: Source reconstruction of electroencephalography (EEG) in adults has become a widely used technique to derive estimated electrophysiological signal representations occurring at specific anatomical locations. Yet there remains a dearth of source-based EEG techniques in paediatric populations which feasibly and accurately capture the same representations. The availability of a streamlined source based EEG framework would provide an essential platform for neuroscientists in the paediatric research space to analyse their EEG data with respect to neuroanatomy. Aim: To assess the feasibility of current brain mapping techniques that reconstruct individual scalp-EEG sources to underlying neuroanatomical sources across a paediatric population. Hypothesis: Source reconstruction of EEG in children across several age groups can be feasibly achieved to provide an accurate representation of scalp-derived EEG to anatomy. Approach: The student will first commence a review of current methods and tools used to reconstruct EEG to anatomy, and examine the most efficient framework to which child-based EEG can be processed. In liaison with their supervisor, they will then examine the most viable pathway towards generating accurate paediatric head models for EEG across various age groups in children and adolescents. The student will have access to two large existing EEG datasets (i) the Healthy Brain Network dataset, which contains EEG data (128 channels) in over 1800 children across 5 to 21 years of age and (ii) a normative, clinically acquired EEG dataset (18 channels) with 800 children aged between 0 to 16 years of age. Whilst it is certainly not expected that the student will assess all of this data, they will utilise a subset of age representative samples, as guided by their supervisors, to assess source reconstruction methods.
Location:	Brain Modelling Group QIMR Berghofer, Herston
Expected outcomes and deliverables:	Students gain skills in literature review, data analysis and computational skills with respect to EEG processing. They will have an opportunity to present their findings to our research group at regularly held lab meetings. If successful, the student will be offered an opportunity to contribute to any publication(s) arising from the project.
Suitable for:	Familiarity with neuroanatomy and neurophysiology would be highly desirable. Whilst not essential, some familiarity with statistical programming software such as Matlab, R and/or Python packages would be desirable.
Primary Supervisor:	Dr Kartik Iyer Kartik.iyer@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#6	**Improving therapeutic responses to chemotherapy through combination common drugs**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	Colorectal cancer is responsible for >5,000 deaths each year, with most deaths resulting from the spread of cancer to distant sites. When this occurs, cancer is said to be metastatic. When colorectal cancer is metastatic, chemotherapy becomes the mainstay of treatment. Responses to chemotherapy are mixed, and resistance and progression occur in >95% of patients. There is a need to enhance responses to common chemotherapeutics to improve patient outcomes. This project will investigate combining common and safe compounds with chemotherapy to improve anticancer activity.
Location:	Conjoint Gastroenterology QIMR Berghofer, Herston
Expected outcomes and deliverables:	Students will gain experience in techniques in cell and molecular biology. These include cell culture, drug screening assays, PCR, and western blotting. Students will be expected to present their findings to the research group at the conclusion of their placement.
Suitable for:	Second- and third-year students with a background in biomedical science. Students will be expected to understand basic molecular and cell biology concepts and techniques.
Primary Supervisor:	Dr Lochlan Fennell Lochlan.fennell@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#7	**Chimeric Antigen Receptor (CAR) T cells for the treatment of cancer**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but the supervisor will try to modify depending on restrictions to the location

Description:	Chimeric Antigen Receptor (CAR) T cells are genetically modified immune cells that can recognise and kill cancer cells. They are a type of cancer immunotherapy that can be very effective against certain types of blood cancers and are now approved for use in patients. However, CAR T cells can only benefit a very small proportion of cancer patients at present. The aim of this project is to develop new types of CAR T cells that are more effective and can target other types of cancer. The project involves using molecular biology techniques to clone new types of CAR T cells and using immunology assays to test the function of these new CAR T cells. It will provide exposure to the fields of cancer immunotherapy, genetic engineering and biotechnology, with a focus on clinical translation.
Location:	Translational Cancer immunotherapy QIMR Berghofer, Herston
Expected outcomes and deliverables:	Scholars will gain exposure to molecular cloning, gene modification with retroviral vectors, cell culture and immunological assays, such as flow cytometry. Scholars are expected to learn at least one or two techniques and be proficient in basic laboratory procedures at the end of their project. Scholars will also participate in lab meetings and seminars.
Suitable for:	Students who are interested in cancer immunotherapy, biotechnology and clinical translation. Students who are interested in pursuing Honours or research higher degree are particularly encouraged to apply.
Primary Supervisor:	Dr Siok Tey siok.tey@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#8	**Investigating hepcidin regulation in hereditary haemochromatosis**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but the supervisor will try to modify depending on restrictions to the location
Description:	Background Iron is an essential nutrient, but is also toxic when in excess, so the amount of iron in the body must be tightly controlled. As mammals don't actively excrete iron, body iron levels are regulated at the point of absorption in the small intestine. This process is controlled by the hormone hepcidin which is secreted by the liver in response to iron requirements. Circulating hepcidin binds to the iron export protein ferroportin on intestinal cells, causing the protein complex to be internalised and degraded, reducing iron absorption from the diet. Inappropriate regulation of hepcidin production causes a number of human diseases. The most common of these is hereditary

	haemochromatosis, which results from mutations in the HFE gene. This leads to a reduction in hepcidin production, increasing dietary iron absorption and causing tissue iron loading. Currently, the only treatment for hereditary haemochromatosis is regular phlebotomy to remove the excess iron. This project will examine the molecular processes regulating hepcidin production and will establish tools for examining novel treatments for hereditary haemochromatosis. Aims Aim 1: To utilise cultured cells to examine the factors regulating hepcidin production. Aim 2: To establish a high throughput assay to screen for novel iron removing compounds. Experimental Plan In Aim 1, liver cells in culture will be treated with a range of compounds to determine their effect on hepcidin production. In Aim 2, cells stably expressing yellow fluorescent protein (YFP) under the control of an iron responsive element will be created, allowing YFP to be regulated by cellular iron levels. In future studies, this cell line will be used as part of a high throughput assay to screen compound libraries for novel molecules able to remove iron from cells. Outcomes This study should provide more information about the molecular processes regulating hepcidin expression, which could potentially assist in the development of agents to treat disorders of iron homeostasis, such as hereditary haemochromatosis.
Location:	Molecular Nutrition Laboratory QIMR Berghofer, Herston
Expected outcomes and deliverables:	The student can expect to gain a range of skills in molecular biology, tissue culture and protein analysis, as well as data analysis and presentation skills
Suitable for:	This project is suitable for a student with a basic knowledge of molecular biology
Primary Supervisor:	A/Prof David Frazer David.frazer@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: QIMRB#9	**Protein biomarkers to predict immunotherapy response in lung cancers**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but the supervisor will try to modify depending on restrictions to the location

Description:	Background: Immunotherapy has revolutionised cancer treatment in the recent years. It has been successfully used to treat several melanoma and lung cancer patients. However, not all patients respond to immunotherapy. There is a clinical need for biomarkers that can identify lung cancer patients that are most likely to benefit from immunotherapy. In this project, we will employ mass spectrometry based proteomics approaches to carry out proteomic profiling of mononuclear cells and plasma samples from lung cancer patients treated with immunotherapy. Proteome profiles of patients who respond to immunotherapy and those that do not respond to immunotherapy will be compared to identify biomarkers of response. These markers will be useful to stratify lung cancer patients that are most likely to benefit from immunotherapy from those that are unlikely to benefit. Aim: Identification of protein biomarkers to predict immunotherapy response in lung cancers. Hypothesis: Lung cancer patients who respond to immunotherapy have a distinct proteome profile compared to patients who do not respond.
Location:	Cancer Precision Medicine group QIMR Berghofer, Herston
Expected outcomes and deliverables:	Student is expected to work in the laboratory. Student will acquire practical skills in sample preparation for proteomics. The candidate will learn about mass spectrometry and acquire proteomics data analysis skills. The candidate is expected to present their work in lab meetings.
Suitable for:	Students with prior experience working in a molecular biology laboratory are desirable
Primary Supervisor:	A/Prof Harsha Gowda harsha.gowda@qimrberghofer.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Rural Clinical School

Project title: RuralCS#1	**Developing indicators to measure Rural Health Research Impact**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks (shortened to 6 weeks) Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.

Description:	A number of indicators are used to measure the impact of research. However, it is complex to demonstrate the impact of research delivered by academics based in rural and regional areas. This project will review the literature to guide academics in the development of potential indicators to measure research impact outcomes.
Location:	Rural Clinical School Toowoomba, Bundaberg, Hervey Bay or Rockhampton
Expected outcomes and deliverables:	A written report about the search strategy along with a summary of findings in the form of a journal article is required
Suitable for:	This work will suit medical students interested in rural health or those considering a PhD
Primary Supervisor:	A/Prof Srinivas Kondalsamy-Chennakesavan uqskonda@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: RuralCS#2	**A review on the use of Augmented Reality (AR) and Virtual Reality (VR) in clinical education**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks (shortened to 6 weeks) Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	There is an explosive growth in the development and use of AR and VR technology in recent years. However, application of this technology in clinical education is still rudimentary. This project will review existing literature and identify potential gaps where this technology could enhance training opportunities for health professionals.
Location:	Rural Clinical School Toowoomba
Expected outcomes and deliverables:	The scholar is expected to compile a report in the form of a journal article ready for submission by Feb 2022
Suitable for:	Medical students with an interest in technology use will be ideal
Primary Supervisor:	A/Prof Srinivas Kondalsamy-Chennakesavan uqskonda@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: RuralCS#3	**Polyp surveillance colonoscopy in Central Queensland**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks (shortened to 6 weeks) Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	This research aims to determine the yield of polyp surveillance more frequently than the guideline of Cancer Council Australia. If the yield is significantly lower than those that following the guideline, those colonoscopies should either be not performed, or be in a lower priority. Colonoscopies performed in Central Queensland within the period of January 2018 to November 2019 will be audited. Students will be responsible for reviewing colonoscopy reports and extract relevant data under supervision, according to pre-defined data definition.
Location:	CQHHS Research Collaborative Rural clinical school Rockhampton Hospital
Expected outcomes and deliverables:	Aggregated data will be analysed and compared against international standards (the previous meta-analysis has already been submitted for conference presentations). Findings of this research will be presented in surgical or colorectal conferences and it will be part of a future manuscript for publication. expect to gain/learn from participating in the project: - data collection - understand the rationale of data definition and data processing - contribute to a publication - opportunity to present the findings at a national conference via an oral presentation or a poster
Suitable for:	Open to all students Preferred for those with experience in data processing and with strong commitments to surgical research
Primary Supervisor:	Dr Ming Ho YiuMing.Ho@health.qld.gov.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: RuralCS#4	**Immune related adverse events of monoclonal antibodies - A scoping review**

Project duration, hours of engagement & delivery mode	Length of project: 6 weeks (shortened to 6 weeks) Hours expected per week: 25 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	Monoclonal antibodies (mAbs) are common place now. The adverse events from mAbs are less well known to the general medical fraternity. mAbs while generally well tolerated , does activate immune and innate reactions leading to different categories of potential immunotoxicity . These adverse clinical consequences may range from mild events to life threatening events. A scoping review is designed to evaluate the existing literature and thus improving our understanding of mAb related immune adverse clinical consequences.
Location:	Rural Clinical School Rockhampton Hospital
Expected outcomes and deliverables:	A scoping review experience Skills abstract and full text screening Data extraction Co-author a publication Opportunity for oral presentation
Suitable for:	Medical students Pre-medical student
Primary Supervisor:	Dr Antony Attokaran antony.attokaran@health.qld.gov.au Rockhampton Hospital -07 49206211
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: RuralCS#5	**Role of Therapeutic Plasma exchange in critically ill patients with Catastrophic Antiphospholipid Syndrome - A Literature review**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks (shortened to 6 weeks) Hours expected per week: 20 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location

Description:	CAPS is an acquired hypercoagulable state due to the presence of antiphospholipid, anticardiolipin, anti-beta 2 glycoprotein I antibodies. This results in sudden and severe multiorgan dysfunction from thrombosis due to antibody mediated platelet activation and endothelial dysfunction. These patients are often critically ill with high mortality rates. The therapeutic options are not standardised but often include anticoagulation, corticosteroid use, therapeutic plasma exchange (TPE), and high-dose intravenous immunoglobulin (IVIG) and monoclonal antibodies (mAbs). This literature review aims to focus on the role of Therapeutic Plasma Exchange , an extracorporeal technique which removes and replaces patients plasma.
Location:	Rural Clinical School Rockhampton Hospital UQ RCS Research Interest Group
Expected outcomes and deliverables:	A literature review experience. Skills in abstract and full text screening Data extraction Co-author a publication- manuscript writing and referencing Opportunity for oral presentation
Suitable for:	Medical students Pre-medical students
Primary Supervisor:	Dr Antony Attokaran antony.attokaran@health.qld.gov.au Rockhampton Hospital -07 49206211
Further info:	The supervisor MUST be contacted by students prior to submission of an application

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Project title: RuralCS#6	**How long till we get it right? Imaging in Paediatric UTI**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks (shortened to 6 weeks) Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 31/01/2022 COVID-19 considerations: advice pending
Description:	The study aims to assess the appropriateness of imaging in paediatric UTI in the light of numerous guidelines available. It is retrospective and regional. It has gone through ethics clearance and PHA approval, and commenced data collection.
Location:	Rural Clinical School

	Rockhampton Hospital
Expected outcomes and deliverables:	Data collection, contribute to data analyses, contribute to manuscript for publication. Write a reflection according to Gibbs reflective cycle format for discussion at end of programme.
Suitable for:	Any student keen on working through patient charts to extract data to excel sheets is welcome
Primary Supervisor:	Dr Sunday Pam sunday.pam@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Office of Medical Education

Project title: OME#1	**Developing feedback literacy to navigate transitions: Researching the effects of an authentic interprofessional learning approach**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	Effective interprofessional feedback in clinical practice enhances health care professionals' performance and, ultimately, improves patient outcomes. However, enacting effective feedback in busy and complex clinical settings is challenging especially for students. Early research has shown that developing students' feedback know how (i.e. feedback literacy) can enhance their feedback experiences. This project aims to to understand better how to develop healthcare students' feedback know how, including improving interprofessional feedback interactions as students transition between and across contexts, e.g., classroom and clinical placements. To achieve this aim, we will use an innovative research method – design-based research – and will develop, implement and evaluate a video-based learning intervention to facilitate authentic learning about feedback in the classroom before healthcare students enter clinical placements. For this project you will collaborate with an interprofessional (medicine, pharmacy and physiotherapy) team from UQ, University of Melbourne and McMaster University (Canada) of medical and health professions education research experts. For this summer project, you will play a key

	role searching the literature and designing, informed by best evidence, the learning intervention.
Location:	Herston
Expected outcomes and deliverables:	Working collaboratively with the research team, you will develop skills in: • reviewing medical and health professions education literature, • research protocol development, • learning intervention design and • academic writing. You will have the opportunity to lead the publication of the research protocol.
Suitable for:	This project is best suited to healthcare profession students who are interested in (or curious about) medical and health professions education, interprofessional learning or student learning research
Primary Supervisor:	Dr Christy Noble c.noble2@uq.edu.au https://researchers.uq.edu.au/researcher/16044
Further info:	The supervisor CAN be contacted by students prior to submission of an application

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Project title: OME#2	**Applying the AMSA Racial Discrimination Scorecard and Cultural Diversity Scorecard to the current UQMD Curriculum**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks Hours expected per week: 20 to 30 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	i. In 2021 AMSA (Australian Medical Students' Association) published Toolkit for Curricula Change. UQ Faculty of Medicine is currently providing a high quality MD program whilst undertaking MD curriculum redesign. ii. The authors of the toolkit state that the intent is for it be used by medical students to use the racial discrimination scorecard and cultural diversity scorecard to evaluate medical school curricula. iii. Applying the toolkit (composed of racial discrimination scorecard and cultural diversity scorecard) to our current UQ MD curriculum gives opportunity to inform the faculty and student cohorts of the cultural responsiveness of the current curriculum, to celebrate and further develop any identified strengths and to identify any opportunity to increase the cultural responsiveness of the current curricula. iv. The project would include reporting of results to the OME and FoM and facilitated discussion as facilitated discussion of results expected to be integral to a staff development initiative towards the cultural change required in this area as well as to education of students v. Results of the scorecards and identified strategies or actions resulting would be used to inform the design of the new MD program.

Location:	Herston
Expected outcomes and deliverables:	i. Consider Literature search and review on tools for assessing cultural diversity in medical curricula and tools for assessing racial discrimination in health curricular. Broader understand of the term Culturally responsive curriculum. ii. Application of Racial Discrimination Scorecard to the MD Curriculum iii. Application of Cultural Diversity Scorecard to the MD Curriculum iv. Analyze the score achieved v. Investigate and outline potential strategies to address any issues identified by scores vi. Write report on Scores and use of Toolkit for current curriculum and its results; and recommendations and opportunities to inform the new MD curriculum, for the Office of Medical Education. vii. Develop report into publication format
Suitable for:	Students interested in medical education, cultural diversity
Primary Supervisor:	Dr Charley Greentree c.greentree@uq.edu.au 0449 778 195 Theme Lead for Kind and Compassionate Professional UQ MD Redesign Office of Medical Education
Further info:	The supervisor CAN be contacted by students prior to submission of an application Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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School of Clinical Medicine – CHQ Clinical Unit

Project title: SoCMCHQ#1	**Innovative paediatric sleep medicine diagnostics**
Project duration, hours of engagement & delivery mode	Length of project: 6 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021 Latest finish date: 17/02/2022 COVID-19 considerations: Project can be modified to deliver remotely, after data extraction stage, if scholar cannot access the location
Description:	Paediatric sleep medicine is a highly skilled, specialist area and this project is a mix of biomedical technology, medical diagnostics, health service innovation and biostatistics. It enables clinicians to help those children at risk of adverse health outcomes and contribute to the relatively new field of medicine - sleep. Obstructive sleep apnoea (OSA) affects 1-2% of otherwise healthy children and it is associated with adverse neurocognitive outcomes and increased healthcare utilisation in school-age children. The peak incidence is in preschool years.

	Compared to children without OSA, school-age children with OSA have lower intellectual ability (measured as IQ) and a range of deficits in more specific areas of cognition, behaviour and psychological function, such as attention, impulse control and mood. Such deficits are associated with even very mild OSA and snoring. Mild cases of OSA are typically determined by a full overnight polysomnography (PSG) test conducted at a laboratory and many signals are analysed, with the primary outcome being an apnoea-hypopnoea index (AHI). It is now widely acknowledged that AHI is not a reliable indicator of sleep disordered breathing symptoms or outcomes in children. There are some indications that mild OSA can be identified using shape of airflow from a single PSG signal to determine severity that may differentiate better than AHI and have improved correlation with deficits in cognition, behaviour and psychological function in children. Working with sleep and respiratory consultants, biomedical engineers and UQ professor, we are identifying and categorising a new, innovative and more sensitive measure of paediatric sleep disordered breathing to identify mild cases of OSA as well as moderate and severe OSA. The project will be to collate electronic retrospective data, refine flow limitation algorithms to identify sleep disordered breathing as indices and determine the effect of treatment (adenoid tonsillectomy) on these indices.
Location:	QCH Department of Respiratory and Sleep Medicine Children's Health Queensland Clinical Unit
Expected outcomes and deliverables:	Scholars may gain skills in electronic data collection, learn and analyse data using a statistics and graphic program (R Studio) and contribute the publication in an innovative and new area of paediatric sleep medicine research. There will also be opportunities to give an oral presentation at paediatric sleep medicine research group monthly meetings, which includes local and national consultants, scientists, nurses and engineers with research interest in paediatric sleep medicine. The scholar will be working with a multi-disciplinary team with international expertise and prior peer-reviewed publications in the field of sleep medicine and be expected to report and discuss finding at regular meetings with the team.
Suitable for:	This project would suit applicants with an interest in digital health and biostatistics and could be undergrad pre-med, pre-medical MD or MD students
Primary Supervisor:	Dr Jasneek Chawla jasneek.chawla@health.qld.gov.au Paediatric Sleep Medicine Research Group, with QCH Sleep Department and UQ ITEE
Primary contact, if not supervisor	Melissa Neylan, Sleep Medicine Research coordinator Melissa.neylan@health.qld.gov.au 07 3069 7267
Further info:	The supervisor MUST be contacted by students prior to submission of an application This project is located on a hospital site. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training may be required

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School of Clinical Medicine - Northside Clinical Unit

Project title: SoCMNth#1	**Artificial Intelligence Chatbot for Smoking Cessation**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified to deliver remotely if scholar cannot access the location
Description:	2.5 million Australians smoke. Smoking is the leading cause of chronic disease and premature death. New technologies need to be explored to see if they can help smokers. Smartphones are almost ubiquitous and can host smoking cessation apps, providing 'in pocket' evidence-based advice and motivation to smokers. To produce a more tailored and interactive app, the team at UQ, QLD Health and CSIRO are developing an AI-based chatbot to help smokers quit. We are looking for an enthusiastic student with some basic coding and IT proficiency to assist with initial coding and testing of the chatbot. The student will work under direct supervision of CSIRO eHealth Team at Herston and other supervisors at UQ. *For another project by the same supervisors, please see HASS listing for A/Prof Olson*
Location:	Herston, CSIRO eHealth, and Northside Clinical Unit, The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	The successful applicant will get to work on this exciting, NHMRC funded project to help create a unique tool to help smokers quit. This project is a complex task that seeks to translate clinical science into an AI frame. The student will have the opportunity to learn from the best - CSIRO scientists are leaders in the emerging and rapidly developing field mHealth apps and medical artificial intelligence. The student will also work within the multidisciplinary project team of academics and clinicians. There may be opportunities to extend work on the project after completion of the scholarship.
Suitable for:	The student must be an all-rounder with excellent hard and soft science skills: Team-orientated Self-directed Willing to learn Have at least basic coding and IT skills Have an interest in public health Have an interest in harnessing technology for health
Primary Supervisor:	A/Prof Henry Marshall henry.marshall@health.qld.gov.au Thoracic Research Centre

Further info:	The supervisor CAN be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.*

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Project title: SoCMNth#2	**Outcomes of lung transplantation**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: This project cannot proceed if scholar cannot access the location
Description:	Lung transplantation is a lifesaving operation for patients with end-stage lung disease. However long-term outcomes are compromised by the development of chronic rejection. This project builds on the work of previous summer scholars to update the Qld Lung Transplant Database at The Prince Charles Hospital. Individual projects can be tailored to the Scholar's interests and provide an opportunity for immersion in the cutting edge clinical and research work of the Qld Lung Transplant program team.
Location:	Northside Clinical Unit The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	Scholars will gain skills in data collection and anlaytical methods and contribute to publication(s). There is also the opportunity to become part of an innovative clinical team which provides quaternary services for patients with advanced lung disease.
Suitable for:	Most suitable for MD students, or those planning a career in statistical analysis
Primary Supervisor:	Prof Dan Chambers daniel.chambers@health.qld.gov.au Qld Lung Transplant Program
Primary contact, if not supervisor	Dr Chandima Divithotewala
Further info:	The supervisor CAN be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.*

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Project title: SoCMNth#3	**Australian Interstitial Lung Disease Registry**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: This project cannot proceed if scholar cannot access the location
Description:	The Interstitial Lung Disesae are a group of less well understood but potentially fatal lung diseases which affect the lung parenchyma. The most common of these is idiopathic pulmonary fibrosis (IPF). This project involves updating Qld Registrants in the National Registry and will allow the Summer Scholar to gain experience in this interesting field, and also facilitate immersion in the cutting edge clinical and research of the Advanced Lung Disease Program at the Prince Charles Hospital.
Location:	Northside Clinical Unit The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	The Scholar will gain skills in data entry, statistical analysis and contribute to publication (s). There is significant opportunity for immersion in the cutting edge clinical and research work of the Advanced Lung Disease and Transplant team.
Suitable for:	Best suited to an MD student, or a student panning a career in health data analysis
Primary Supervisor:	Prof Dan Chambers daniel.chambers@health.qld.gov.au Qld Lung Transplant / Advanced Lung Disease Program
Primary contact, if not supervisor	Dr John Mackintosh
Further info:	The supervisor CAN be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.*

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Project title: SoCMNth#4	**Improving sepsis outcome through limiting vascular endothelial-glycocalyx injury and augmenting its recovery: Investigations in an ovine septic shock-model**
Project duration, hours of	Length of project: 8 weeks Hours expected per week: 36 hours

engagement & delivery mode	Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: This project cannot proceed if scholar cannot access the location
Description:	Sepsis is a global health priority affecting approximately 50 million people annually and causing 1 in every five deaths worldwide. The in-hospital mortality of patients admitted to an intensive care unit with sepsis, in Australia and New Zealand, is significantly high. While the understanding of the pathophysiology of sepsis has increased, our ability to intervene and alter the trajectory of the disease has been limited. Capillary leak, perhaps due to the shedding of the glycocalyx lining the vascular endothelium, is one of the hallmarks of sepsis and septic shock. There is need for studies investigating different strategies of vasopressor treatment as well as limiting injury and augmenting recovery of the endothelial-glycocalyx in septic shock. The Critical Care Research Group (CCRG) is a global leader in critical care medicine research through clinically-relevant large animal-models. This project will be part of a larger study funded by the Emergency Medicine Foundation (EMF-161R34-2020) investigating haemodynamic profiles, endotypes and timing of vasopressor therapy in septic shock at the CCRG's pre-clinical laboratory. It will specifically focus on detailed investigation of the vascular endothelial-glycocalyx in the ovine model of septic shock. Currently, there are no clinical interventions targeting the glycocalyx to reduce degradation and augment its recovery in sepsis. Project hypothesis: In septic shock, treatment targeting the reduction in glycocalyx injury and enhanced repair could stabilise mean arterial blood pressure and heart function. The student projects will focus on vascular tissue preparation for (1) transmission electron microscopy (TEM) and (2) enzyme-linked immunosorbent assay (ELISA) of glycocalyx degradation products (hyaluronan) comparing the treatment groups. The students will work under the mentorship of senior research fellows and research assistants on the project and be exposed to various laboratory and research methods within CCRG.
Location:	Northside Clinical Unit, Clinical Sciences Building The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	Scholars attached to these projects will have an intense 8-weeks learning in a fast-paced research environment in critical care. The scholars will be expected to familiarise themselves with literature on sepsis and septic shock. They will gain skills in pre-clinical and live-animal critical illness research methods, tissue preparation methods for (1) transmission electron microscopy (TEM) and (2) enzyme-linked immunosorbent assay (ELISA) methods. Additional transferrable research skills they will learn include, data collection, data analysis, scientific writing including producing a report and giving an oral presentation. They will also have the opportunity to develop their own research questions on the model based on their literature reviews and research interests.

Suitable for:	This project is suitable for students considering a PhD as well as pre-medical provisional students
Primary Supervisor:	Dr Nchafatso Obonyo g.obonyo@uq.edu.au Critical Care Research Group
Further info:	The supervisor CAN be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.* *This project:* Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#5	**Trends in outcomes of patients hospitalized with atrial fibrillation or atrial flutter in Australia and New Zealand from 2008-2017**
Project duration, hours of engagement & delivery mode	Length of project: 10 weeks Hours expected per week: 30-36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Project can be modified for short periods but could not proceed if scholar cannot access the location for a long period
Description:	Background: Atrial fibrillation and atrial flutter (AF/AFL) are the most commonly encountered arrhythmia in clinical practice. These conditions have been shown to be associated with worse outcomes such as increased risk of stroke, heart failure, and frequent rehospitalizations. Indeed, in Australia, it is estimated that the number of AF hospitalizations increased nearly three-fold from 1993-2013, making it the most common cardiovascular cause for hospitalizations, surpassing heart failure and acute myocardial infarction (Gallagher et al.,2019). Despite the rising rates of AF/AFL hospitalizations, studies from other regions (US, Canada, and Europe) have shown decreasing mortality rate during the hospital stay or up to 1-year. Whether a similar trend could be observed in Australia and New Zealand is uncertain. Furthermore, the current literature mainly focuses on mortality, but data regarding other equally important outcomes such as rehospitalizations for recurrent arrhythmia and AF-related consequences such as stroke and heart failure are lacking. Aims: To evaluate the trends in 1-year outcomes of patients hospitalized for AF/AFL in Australia and New Zealand from 2008-2017. Methods: This project will use hospitalization data from Australia and New Zealand to identify all patients hospitalized with a primary diagnosis of AF/AFL from 2008-2017. These data are readily available from the ORION (Observing Recurrent Incidence of Adverse Outcomes following

	HospitalizatioNs) project with ethics approval granted from all relevant research ethics committees. The primary outcome will be all-cause death, secondary outcomes will include rehospitalizations for recurrent arrhythmia, stroke, or heart failure. Kaplan-Meier survival analysis will be used to calculate survival and event-free survival probability.
Location:	Northside Clinical Unit The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	By participating in this project, the scholar can expect to: - Work in a dynamic research team with a focus on large-scale linked data to evaluate outcomes of care - Get familiar with coded healthcare data, statistical software, data-linkage, ICD10 and ACHI disease and procedure coding - Learn knowledge and skills that are essential for research including epidemiology, common statistical methods, presentation and scientific writing skills. - Acquire reference letter for job or study application (subject to performance) At the end of the project, the scholar is expected to: - Present the results in a meeting of the research team - Help with putting up an abstract for the Cardiac Society of Australia and New Zealand Annual Scientific Meeting 2022
Suitable for:	The suitable candidate should: - Be proactive and keen to learn new knowledge and skills and have a desire to pursue research in the future. The project is best suited to someone with background skill (or seeking a career in) in cardiology, epidemiology, public health, or biostatistics seeking to gain hands-on research experience. - Be able to follow instructions but also capable of working independently - Follow the all requirements for working in a hospital setting
Primary Supervisor:	Dr Linh Ngo linh.ngo@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.* This project: Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#6	**Urinary Sodium Guided Diuretic Titration to Expedite Care of Acute Heart Failure: A Randomised Controlled Trial**
Project duration, hours of	Length of project: 10 weeks Hours expected per week: 30 to 36 hours

engagement & delivery mode	Earliest start date: 29/11/2021 Latest finish date: 6/02/2022 COVID-19 considerations: advice pending.
Description:	Background: Acute heart failure (AHF) is one of the most common causes of hospital admissions. Rapid and effective removal of excess water and sodium (decongestive therapy) with diuretics is the mainstay of the treatment. However, evaluating the efficacy of diuresis and adjusting the dose of diuretics by current methods, such as weight loss and net fluid balance are challenging, because they are frequently not collected correctly or are subject to several hours of delay after diuretic administration. Recently a limited number of small prospective observational studies have suggested a potential role for urinary sodium content (UNa), both in spot samples as a tool to rapidly assess the response to decongestive therapy and to estimate future outcomes (Biegus, 2019; Mullens, 2019; Terslavi, 2019). The student will assist with an existing randomised control trial to further assess this hypothesis. Aims: 1. To assess the feasibility, safety and efficacy of adjusting diuretic therapy using urinary sodium (UNa) in patients presenting with AHF. Methods: A single-centre prospective randomised controlled trial of patients with acute heart failure admitted to The Prince Charles Hospital. Patients will be randomised to Una guided diuretic adjustment or standard care. Primary outcome: length of hospital stay; secondary outcomes: weight change, acute kidney injury, worsening heart failure, all-cause death and re-hospitalisation at upto 30-days post discharge.
Location:	Northside Clinical Unit Department of Cardiology ,The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	By participating in this project, there is an excellent opportunity for the scholar to: 1. Work within a dynamic clinic research team in a hospital environment. 2. Achieve practical hands-on clinical experience in conduct of a clinical trial 3. Gain knowledge and skills essential for research, including data collection from patients' records, data entry, administration of surveys and patient follow-up, presentation of data and scientific writing skills. 4. Contribute to the abstract or publication 5. Acquire reference letter for future job or study application. The scholar is expected to 1. Be proactive and keen to learn new knowledge and skills and have a desire to pursue clinical research in the future. 2. Follow all requirements for working in a hospital setting Deliverables expected at the end of the project: 1. To present the results in a team meeting. 2. To help with submitting an abstract at a scientific conference.
Suitable for:	The project is open to applications from students from a health science, medical or nursing background seeking to gain clinical research experience or wishing to peruse future research in the form of an honour year or a higher degree
Primary Supervisor:	Dr Maryam Khorramshahi Bayat maryam.khorramshahibyat@health.qld.gov.au

	Advanced Heart Failure and Transplant Unit, Department of Cardiology
Further info:	The supervisor MUST be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.* This project: Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#7	**Streamlined Pathway for Acute Heart Failure (SPAHF)**
Project duration, hours of engagement & delivery mode	Length of project: 10 weeks Hours expected per week: 30 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	This study evaluates if the introduction of a streamlined clinical pathway for patients presented to the emergency department with suspected acute heart failure will improve access to the diagnosis and treatment and the length of stay. The study will be done as a "before and after study". The summer student will predominantly take part in the "before" component on data collection for the designated retrospective period prior to implementation of the streamlined pathway. In addition, there is opportunity to assist in data collection in the "after" component and data analysis.
Location:	Northside Clinical Unit The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	By participate in this project, the scholar will gain skill in data collection, potential exposure to guided data analysis and to contribute to an abstract or publication
Suitable for:	Medical students with basic knowledge on terminology for clinical signs and symptoms of heart failure
Primary Supervisor:	Dr Wandy Chan wandy.chan@health.qld.gov.au Heart Failure Unit, The Prince Charles Hospital
Further info:	The supervisor MUST be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the*

	period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project. This project is located on a hospital site or includes patient contact. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#8	**Incidence, Causes and Timing of Potentially Preventable Readmissions Following an Acute Stroke**
Project duration, hours of engagement & delivery mode	Length of project: 10 weeks Hours expected per week: 30 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	a. Background: Despite the decline in mortality over time (Johnson et al., 2019), stroke is still a leading cause of hospitalization, death and expenditures in both Australia and New Zealand (AIHW, 2020; Ranta, 2018). A stroke hospitalization may increase the risk of a stroke readmission and readmissions due to other causes. Evidence suggests many of these are potentially preventable readmissions. Recent health policy efforts have focused on reducing readmissions following stroke but there is limited national data on the incidence, cause and timing of early readmissions after a stroke hospitalization. These data were crucial for clinicians seeking to improve stroke care. b. Aims: To assess readmissions following an Acute Stroke in Australia and New Zealand. c. Methods: This project will use existing national data held by the researchers from Australia and New Zealand to identify all patients hospitalized with a stroke from 2012-2017. The study will examine incidence, causes and timing of readmissions up to 30-days after a stroke hospitalization and determine the proportion that may be potentially preventable.
Location:	Northside Clinical Unit The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	By participating in this project, the scholar can expect to: a. Work in a dynamic research using large-scale linked data to evaluate outcomes of stroke care b. Get familiar with coded healthcare data, statistical software, data-linkage, ICD10 and ACHI disease and procedure coding c. Obtain knowledge and skills that are essential for research including epidemiology, common statistical methods, presentation and scientific writing skills. d. Acquire reference letter for job or study application (subject to performance) Deliverables expected at the end of the project:

	a. Present the results in a team meeting b. Help with putting up an abstract for a national/international scientific meeting
Suitable for:	On the other hand, the scholar is expected to a. Be proactive and keen to learn new knowledge and skills and have a desire to pursue research in the future. The project is best suited to someone with background skill (or seeking a career in) in epidemiology, public health, biostatistics or a related field seeking to gain hand-on research experience. b. Be able to follow instructions but also capable of working independently c. Follow the all requirements for working in a hospital setting
Primary Supervisor:	Dr Yang Peng y.peng@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.* This project: Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#9	**Developing Scalable Methods to Track Incidence and Outcomes of Infective Endocarditis**
Project duration, hours of engagement & delivery mode	Length of project: 10 weeks Hours expected per week: 30 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	Infection of the heart valves or Infective Endocarditis (IE) is a deadly yet relatively neglected disease. Up until the 1940s, this condition was almost universally fatal. The introduction of antibiotics and surgical has reduced deaths considerably. Nevertheless, about 1 in 5 patients with endocarditis die or suffer significant morbidity even with contemporary antibiotics and surgical therapy. Moreover, the risk of infective endocarditis is rising due to increase in hospital-acquired infections and frequent use of invasive cardiac devices such as pacemakers and prosthetic heart valves. Tracking the incidence or the outcomes of this serious condition, however, is difficult because endocarditis remains a relatively uncommon condition with varied presentations and a range of causative pathogens.

	Infective Endocarditis Queensland (IEQ) is Australia's first clinical and research collaborative supporting improved outcomes for patients with infective endocarditis. Based at The Prince Charles Hospital, IEQ's mission is to improve outcomes of endocarditis by advances in diagnosis, management and prevention. The ongoing IEQ Clinical Registry and Biobank collects detailed patient data on confirmed cases of infective endocarditis. In this study, we seek to develop robust methods to track the incidence and outcomes of infective endocarditis, leveraging the data collected by IEQ. Specifically, we will undertake a validation study to examine if cases of definite or probable endocarditis, and the causative organism, can be identified from routinely collected hospital data by comparing actual cases of IE recorded in the IEQ Clinical Registry with data routinely collected by the hospital for the same patients. If patients with endocarditis, and the causative organism responsible, can be identified from routinely collected hospital data, then it may greatly expand our ability to track the incidence and outcomes of IE using across hospitals using electronic health records and emerging national data linkage capabilities.
Location:	Northside Clinical Unit The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	By participating in this project, the scholar can expect to: a. Learn about heart valve infection and diagnosis and management of this serious condition b. Gain research and work experience in the dynamic multi-disciplinary IEQ research team in the hospital setting c. Get familiar with clinical registry and routinely collected (coded) healthcare data d. Learn knowledge and skills that are essential for research including epidemiology, data collection, common research methods, presentation and scientific writing skills
Suitable for:	This project is suitable for students with a background in any health-related field of study seeking to gain practical research experience and for those potentially considering further research in the form of an honours year or a higher degree. There are considerable opportunities for the student to extend this project into an honours year or a higher degree.
Primary Supervisor:	Dr Yong Wee Yong.Wee@health.qld.gov.au Infective Endocarditis Queensland (IEQ), The Prince Charles Hospital
Further info:	The supervisor MUST be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.* This project: Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#10	**Biomarkers for early lung cancer**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending
Description:	This project will develop knowledge of putative biomarkers for the potential evaluation of lung cancer to discover novel robust and clinical useful biomarkers for lung cancer diagnostics, prediction, prognostication and theranostics. The project involves secondary data analysis.
Location:	Northside Clinical Unit Thoracic Medicine, Administration Building The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	Learning Objective: analytical accuracy , clinical accuracy, clinical utility of various biomarkers , testing platforms and pre -analytical aspects of biomarker trial including biomarker research participant selection , sample collection and preparation, storage and documentation and biomarker testing to discover novel robust and clinical useful biomarkers for lung cancer diagnostics, prediction, prognostication and theranostics
Suitable for:	The project is open to applications from students interested in biomarkers, cancer, and pathology. The project may be also suitable for students studying biomedical science and intending to enter medicine or considering an Honours program.
Primary Supervisor:	Prof Kwun Fong Thoracic Research Centre
Primary contact, if not supervisor	Barbara Page barbara.page@health.qld.gov.au phone 3139 4157
Further info:	The supervisor MUST be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.* This project: Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#11	**Clinical guideline implementation for COPD**
Project duration, hours of	Length of project: 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021

engagement & delivery mode	Latest finish date: 18/02/2022 COVID-19 considerations: advice pending
Description:	Chronic Obstructive Pulmonary disease (COPD) is a chronic lung disease that requires complex management . There are considerable, but not insurmountable, challenges to uptake of treatment recommendations from these guidelines into routine clinical practice. The aim of this quality improvement project is to increase the uptake of COPD guideline usage by clinicians caring for patients with COPD, and sustain this improvement.
Location:	Northside Clinical Unit Thoracic Medicine, Administration Building The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	Learning Objective: Co-design of an electronic system for decision-making for COPD management, providing real-time access to evidence-based clinical algorithms to be used in clinical practice for diagnosis and management of COPD patients (as inpatients or outpatients). Testing of the electronic clinical decision support system to demonstrate benefits with reductions in exacerbations and admissions for patients with COPD, improved quality of life, effective usage of the electronic system by clinicians, enhanced user experience and good patient satisfaction.
Suitable for:	The project is open to applications from students interested in respiratory chronic diseases and health services research. The project is suitable for students who have computer programming or software development skills, interest in artificial intelligence decision tools and in health service research particularly chronic disease management.
Primary Supervisor:	Prof Ian Yang ian.yang@health.qld.gov.au Thoracic Research Centre
Further info:	The supervisor MUST be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination or nonsusceptibility for vaccine preventable diseases is determined for each project.* This project: Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMNth#12	**HACEK Bacteraemias in a cardiothoracic centre**
Project duration, hours of engagement & delivery mode	Length of project: 8-10 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022

	COVID-19 considerations: This project cannot proceed if scholar cannot access the location
Description:	The HACEK group of organisms are Gram negative bacteria that are implicated in several disease processes including endocarditis. Literature suggests these organisms are more aggressive than most when causing endocarditis. However, little is known of the overall prevalence of bacteraemias with these organisms in an Australian setting, and factors that may help clinically predict or exclude endocarditis, or may help with predicting prognosis. Being able to promptly predict prognosis may improve outcomes by directing therapy. The results from this study may be published and may lead to wider studies (state-wide or national multi-centre). Infective Endocarditis Queensland (IEQ) is Australia's first clinical and research collaborative supporting improved outcomes for patients with infective endocarditis. Based at The Prince Charles Hospital, IEQ's mission is to improve outcomes of endocarditis by advances in diagnosis, management and prevention. In this study, student will work with the IEQ team to perform a literature review and identify patients with suspected HACEK infection from clinical records at TPCH over the last 20 years. The student will then extract patient presentation characteristics, pathological and imaging findings and determine if patients experienced endocarditis and their outcomes. This project is suitable for students with a background in any health-related field of study. A background in chronic disease-related fields, public health, health economics, and/or digital health will be an advantage.
Location:	The Prince Charles Hospital, Chermside
Expected outcomes and deliverables:	By participating in this project, the scholar can expect to: a. Learn about heart valve infection and diagnosis and management of this serious condition. b. Gain research and work experience in the dynamic multi-disciplinary IEQ research team in the hospital setting c. Get familiar with healthcare data and data extraction from clinical databases. d. Learn knowledge and skills that are essential for research including epidemiology, data collection, common research methods, presentation and scientific writing skills.
Suitable for:	This project is suitable for students with a background in any health-related field of study. A background in chronic disease-related fields, public health, health economics, and/or digital health will be an advantage.
Primary Supervisor:	Dr Robert Horvath Robert.Horvath@health.qld.gov.au Infective Endocarditis Queensland (IEQ), The Prince Charles Hospital
Further info:	The supervisor CAN be contacted by students prior to submission of an application *All scholars on projects requiring access to The Prince Charles Hospital site will be required to undergo a mandatory Criminal History Check (CHC) as part of the TPCH process. In addition to current COVID restrictions for the period of the project, the requirement for providing evidence of vaccination*

	or nonsusceptibility for vaccine preventable diseases is determined for each project. This project: Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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School of Clinical Medicine - PAH-Southside-Clinical Unit

Project title: SoCMPAH#1	**The reasons for and impact of clozapine cessation: A Systematic Review and Meta-Analysis**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: This project can be delivered remotely
Description:	Schizophrenia is a psychiatric disorder that currently affects 1 in 100 Australians. Of this cohort, about one in three are treatment-resistant; classified as those with moderate-severe impaired functioning and a lack of response to at least two antipsychotics agents other than clozapine. Clozapine, an atypical antipsychotic, is first line therapy for treatment-resistant schizophrenia (TRS) due to its superior ability to reduce positive symptoms of schizophrenia compared to other antipsychotics. However, clozapine is associated with significant adverse drug reactions, including agranulocytosis, myocarditis, seizures and diabetes. Cessation of clozapine is associated with a relapse in psychotic symptoms. This project aims to elucidate the reasons for clozapine and the impact of clozapine cessation on mental health outcomes. By better understanding the reasons for clozapine cessation, we can develop more effective interventions for managing clozapine associated adverse drug reactions to avert avoidable clozapine cessation.
Location:	PA-Southside Clinical Unit Princess Alexandra Hospital
Expected outcomes and deliverables:	Students will be involved in Cochrane-style systematic review and meta-analysis. Students will be involved in the systematic literature search, article selection, data extraction and compilation of PRISMA diagrams. Motivated students will be involved in data-analysis, interpretation, and manuscript preparation and submission. It is the expectation that this research project will lead to a publication. The student's authorship position on the manuscript will be dependant on their level of contribution to the overall project.
Suitable for:	Students in the health and medical sciences would be most suitable for this project. This project may be of particular interest among medical students with an interest in undertaking specialist training in psychiatry. There may be possibilities for undertaking a PhD for students who perform at a high level during this project. Medical students will be able to undertake clinical shadowing with members of the research team.

Primary Supervisor:	Prof Dan Siskind d.siskind@uq.edu.au QCMHR
Further info:	The supervisor MUST be contacted by students prior to submission of an application This project is located on a hospital site or includes patient contact. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMPAH#2	**Analysing brain haemodynamics to defend against perioperative organ dysfunction**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	The brain can be monitored non-invasively during surgery using an optical technique called near infrared spectroscopy. Advanced analysis of this monitoring, integrated with other signals can predict organ autoregulation with respect to blood pressure and potentially inform therapies to defend against perioperative organ injury. We have a large dataset of perioperative monitoring. This project will involve advanced data analysis to explore links between NIRS defined autoregulation parameters and organ injury.
Location:	PA-Southside Clinical Unit Princess Alexandra Hospital
Expected outcomes and deliverables:	The applicant can expect to gain experience with an established perioperative research team. This project specifically will facilitate skills in signal processing, MATLAB and statistical analysis of patient datasets. This programme of research will contribute to presentations and publication.
Suitable for:	This project is particularly suited to students with an interest in applied physiology, programming, MATLAB and Physics. The group works at the interface with clinical research and large pragmatic trials. There is opportunity to continue this work into prospective clinical trials examining patient outcomes as part of a higher degree.
Primary Supervisor:	Dr David Highton d.highton@uq.edu.au https://researchers.uq.edu.au/researcher/18451
Further info:	The supervisor MUST be contacted by students prior to submission of an application This project is located on a hospital site or includes patient contact. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training may be required

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Project title: SoCMPAH#3	**Patterns of bedside ultrasound usage**
Project duration, hours of engagement & delivery mode	Length of project: 6 to 8 weeks Hours expected per week: 30 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but project can be modified to deliver remotely if scholar cannot access the location
Description:	This project is an observational study to assess patterns of usage of bedside ultrasound and compliance with cleaning and disinfection of ultrasound machines used in the Emergency Department. The student will be embedded in ED Acute and Resuscitation areas, and will observe the use of ultrasound and will record which machines are used, the locations in which they are used, the purpose for which they are used, whether patient details are entered, whether the study was saved, whether it was documented and whether the machine was appropriately cleaned and restored to standby readiness after use.
Location:	PA-Southside Clinical Unit Emergency Department, Princess Alexandra Hospital
Expected outcomes and deliverables:	The PAH ED places a strong emphasis on learning about the entire research process. Whilst the bulk of the work will be around data collection other activities will include a literature review, analysis of data, and reporting and dissemination of findings. Minimum expected outcomes are a project report and a presentation to the ED . All previous summer scholars have also made at least one conference presentation and several have been co-authors on peer reviewed publications. Similar outcomes are expected in 2021
Suitable for:	Any motivated medical student
Primary Supervisor:	Dr Georgia Livesay g.livesay@uq.edu.au PAH Emergency Department Research Group
Primary contact, if not supervisor	Dr Robert Eley r.eley@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application This project is located on a hospital site or includes patient contact. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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Project title: SoCMPAH#4	**Psychosis in patients with methamphetamine intoxication: do they all need a mental health referral?**

Project duration, hours of engagement & delivery mode	Length of project: 6 to 8 weeks Hours expected per week: 30 to 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: Preference to deliver onsite, but project can be modified to deliver remotely if scholar cannot access the location
Description:	Acute methamphetamine intoxication is an increasingly common presentation to Emergency Departments. Most patients with methamphetamine intoxication present due to acute behavioural disturbance, often with psychotic symptoms, requiring sedation. The acute behavioural disturbance usually resolves with the resolution of intoxication. There is good research linking chronic methamphetamine use with psychosis (methamphetamine-associated psychosis), both in the short and long-term. In contrast, there is little data exploring the psychotic symptoms in the acute phase of methamphetamine intoxication, in particular its duration and requirement for psychiatric intervention or pharmacotherapy. The aims of this project are to • To characterise the acute behavioural disturbance and psychotic symptoms associated with acute methamphetamine intoxication. • Identify which patients with methamphetamine intoxication would most benefit from mental health referral. This is a retrospective observational study of patients > 17 years that have self-reporting using methamphetamine and exhibit acute behavioural disturbance and/or psychotic symptoms presenting to the Princess Alexandra Hospital over one year.
Location:	PA-Southside Clinical Unit Emergency Department and Clinical Toxicology Unit, Princess Alexandra Hospital
Expected outcomes and deliverables:	The PAH ED places a strong emphasis on learning about the entire research process. Whilst the bulk of the work will be around data collection other activities will include a literature review, analysis of data, and reporting and dissemination of findings. Minimum expected outcomes are a project report and a presentation to the ED . All previous summer scholars have also made at least one conference presentation. All previous summer scholars in the Toxicology Unit have been co-authors on peer reviewed publications. Similar outcomes are expected in 2021
Suitable for:	Any motivated medical student
Primary Supervisor:	Dr Katherine Isoardi k.isoardi@uq.edu.au PAH Emergency Department Research Group
Primary contact, if not supervisor	Dr Robert Eley r.eley@uq.edu.au
Further info:	The supervisor MUST be contacted by students prior to submission of an application

	This project is located on a hospital site or includes patient contact. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training will be required

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School of Clinical Medicine – Primary Care Clinical Unit

Project title: SoCM PrimCare#1	**RELEASE: REdressing Long-tErm Antidepressant uSE: optimising resources to support safe cessation of long-term antidepressants in general practice**
Project duration, hours of engagement & delivery mode	Length of project: 6 to 8 weeks Hours expected per week: 36 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	This project involves assisting researchers in the Primary Care Clinical Unit to complete a review of the literature, aiming to identify resources and approaches useful for supporting people to stop long-term antidepressant use in the general practice setting. We are developing an intervention to be trialled in general practice – RELEASE: REdressing Long-tErm Antidepressant uSE, which is designed to support people to safely and effectively stop long-term antidepressants when they are no longer indicated in line with clinical guideline recommendations. There is considerable concern about increasing antidepressant use, with Australians amongst the highest users in the world (about one in seven adults). The increase is mainly due to increasing long-term use in general practice. It is estimated that between 30-50% of people on long-term antidepressants have no indication for continued use and could try stopping. Stopping antidepressants can be difficult because of unpleasant withdrawal symptoms that are readily misconstrued as relapse and on-going need for medication. RELEASE has been designed to prompt review of long-term antidepressants and to mitigate withdrawal symptoms through support and slow tapering of drug dose.
Location:	UQ Health Sciences building, Herston
Expected outcomes and deliverables:	It is anticipated that scholars will gain knowledge of the steps involved in writing the introduction section of a journal publication, and gain skills in extracting data from published papers, searching for papers, and collating and synthesising information. Applicants will be integrally involved in working collaboratively to complete a literature review. Depending on the depth and extent of involvement, the scholar may have an opportunity to be included on a publication that arises from this research.
Suitable for:	This project would be suitable for medical students with an interest in improving the quality of primary mental health care and quality use of medicines, who are motivated and able to work independently to complete tasks and meet deadlines.

	The tasks would suit someone with a strong academic record and excellent written communication skills, someone who has an interest in health services research as well as the processes used in developing health care and behaviour change interventions. The student may be expected to attend team meetings at the Herston campus.
Primary Supervisor:	A/Prof Katharine Wallis k.wallis@uq.edu.au https://researchers.uq.edu.au/researcher/24839 and https://researchers.uq.edu.au/researcher/277
Further info:	The supervisor be contacted by students prior to submission of an application

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School of Clinical Medicine - Royal Brisbane Clinical Unit

Project title: SoCMRoyal#1	**Multifactor determinants that influence patient participation in cancer clinical trials in Australia**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 24 hours Earliest start date: 29/11/2021 Latest finish date: 18/02/2022 COVID-19 considerations: advice pending.
Description:	This project is one study in a broader program of research being led by a multi disciplinary team at RBWH in partnership with Monash Health. All of the team members are actively involved in oncology clinical trials nationally. The work is responding to international calls for improved equitable access to clinical trials treatment pathways. A scoping review of the literature will be completed by the student over the SRP. A protocol for this has been submitted for peer review. Preliminary searches of the literature have be completed with the support of an expert librarian. This study will be supported by the research team who have expertise in the study methodology and review content. It is anticipated that a resulting manuscript will be submitted to a high ranking journal.
Location:	Royal Brisbane Clinical Unit Royal Brisbane and Women's Hospital
Expected outcomes and deliverables:	Applicants will gain knowledge and expertise in scoping review methodology. They will have the opportunity to work in a team of clinician researchers. The student will learn about clinical research treatment pathways and the implications for patient care and health services. There is an opportunity to be an author on a manuscript for the scoping review in a well respected peer reviewed journal.
Suitable for:	This work would be suitable for students who are interested in embedding research into their clinical practice

Primary Supervisor:	A/Prof Zarnie Lwin z.lwin@uq.edu.au Cancer Care Services, Royal Brisbane and Women's Hospital
Primary contact, if not supervisor	Dr Natasha Roberts Natasha.roberts@uq.edu.au
Further info:	The supervisor CAN be contacted by students prior to submission of an application This project is located on a hospital site. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training may be required

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Project title: SoCMRoyal#2	**Vision-guided insertion of two new airway devices on manikins**
Project duration, hours of engagement & delivery mode	Length of project: 8 weeks Hours expected per week: 20 hours Earliest start date: 1/12/2021 Latest finish date: 1/02/2022 COVID-19 considerations: advice pending.
Description:	Airway management is core business for anaesthetists taking care of patients undergoing general anaesthesia (GA) with a tracheal tube (TT) or a supraglottic airway device (SAD) [worldwide some 400 million patients undergo GA every year]. Numerous studies have consistently shown that 50-80% of all blindly-inserted SADs (irrespective of type, brand, size, cuffed/non-cuffed design, including 1st and 2nd generation devices) are placed sub-optimally in the hypopharynx. This may result in a potentially poor airway seal, airway leak/obstruction, 'loss' of airway, hypoventilation, potential for regurgitation, gastric aspiration pneumonia, airway trauma, nerve injury and postoperative sore throat and hoarseness. Overall complications of SAD use vary between 0.1–7%. If we correct the position using videolaryngoscopy, it is expected that the number of adverse outcomes will decrease. Our research group has extensively studied malpositioning of SADs and proposed SAD insertion using the vision-guided 'insert-detect-correct-as-you-go' technique and a videolaryngoscope. We subsequently proposed the 3rd generation SAD that includes a multiple lumen with video-function incorporated into the device. We intend to test functionality of two new 3rd-generation devices within a simulated setting in the RBWH 'Centre for Excellence and Innovation in Anaesthesia'. This will be the first large-scale test in the world on manikins with these new devices. Our primary goal is optimal position of the SAD into the hypopharynx in airway manikins.
Location:	Royal Brisbane Clinical Unit Royal Brisbane and Women's Hospital

Expected outcomes and deliverables:	How will this project lead to innovation or changes in healthcare practice? • These innovations present the next phase in the evolution of the SADs to generate increased safety/efficacy and reduce morbidity. • This research maintains the leadership of RBWH/UQ at the cutting edge of innovation of new airway devices (worldwide leadership). • The technique can be used to insert SAD, gastric tube and tracheal tube, while it reduces/eliminates complications with blind insertion. • The new device will increase the confidence in anaesthetists in providing a safe airway, thereby reducing complications of intraoperative loss of airway; hypoventilation and hypoxia. • If more SADs are in correct position, their indications may be increased, reducing the tracheal tube-related complications
Suitable for:	Medical Students at UQ, preferable with an interest in practical and technical issues
Primary Supervisor:	Prof André Van Zundert a.vanzundert@uq.edu.au 0417654348 UQ Centre for Excellence and Innovation in Anaesthesia
Further info:	The supervisor CAN be contacted by students prior to submission of an application This project is located on a hospital site. Evidence of vaccination or nonsusceptibility for vaccine preventable diseases, and additional local induction and training may be required

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