March 2021

# Priceless

Clifford Craig FOUNDATION
Health • Research • Hope

The news bulletin for supporters of the Clifford Craig Foundation

# $760,000 Commitment for Research in 2021

**The Clifford Craig Foundation will provide funding for eight new research projects in 2021, plus allocate additional funding for two existing trials that are being undertaken at the Launceston General Hospital and the North West Regional Hospital in Burnie.**

The successful recipients of the medical research grants will enable research to be undertaken across a broad range of health areas, including motor neurone disease, respiratory disease, multiple sclerosis, prostate surgery, gastrointestinal disease, paediatrics, falls prevention, orthopedic surgery and cardiology.

The funding allocation for the eight new projects is $368,521, plus the Foundation has also granted additional funding of $96,989 for the Cardiac Photo Biomodulation trial being undertaken by Dr Rohit Barthwal and Dr Michael Fox, and $25,000 for the ASAP orthopaedic trial by Dr Jonathan Mulford.

Chairman of the Clifford Craig Foundation, Associate Professor McTaggart said the combination of the newly announced grants, with the existing research program commitments, will see the Clifford Craig Foundation contribute approximately $760,000 for medical research in North and North West Tasmania this year.

Associate Professor McTaggart acknowledged and thanked Clifford Craig's supporters and donors for their philanthropic support that enables the Foundation to facilitate research activity at a local level, that ultimately leads to better health outcomes for the people who live in our region.

Keep reading for a detailed overview of the newly funded projects.

- Motor Neurone Disease therapeutic trial, Lighthouse II - $58,870
- Cognition in Multiple Sclerosis - $57,683
- Early detection of airway abnormalities in smokers - $15,794
- Preventing hospital admissions due to falls - $52,140
- Nurse led monitoring of prostate surgery patients - $27,073
- Effects of electronic smoking devices on inducing airway inflammation - $80,000
- Improving outcomes for babies born in NW Tasmania - $79,927
- Improving patient outcomes in gastrointestinal diseases - $52,034

## From the CEO

Welcome to the Special Research Edition of the Clifford Craig newsletter "*Priceless*".

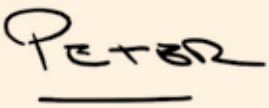
This issue of *Priceless* highlights the very important medical research projects that are being undertaken here at our very own hospitals in Launceston, Burnie and Mersey. As you read the articles, I am sure you will agree that we have some wonderful and dedicated clinicians who not only provide vital patient care, but they are driven to finding better treatments and models of care.

I think it is fair to say that due to the COVID-19 pandemic, we all have a greater appreciation of the importance of medical research.

It is extremely rewarding that our community enables research projects such as those highlighted in this newsletter to be undertaken here in Northern Tasmania. Through the Clifford Craig Foundation, your philanthropic support enables us to fill the hospital funding gap and provide the "extra gold nuggets" for innovative medical research and education initiatives for health staff.

Thank you once again for your on-going support. It is people like you that are our lifeblood and the reason we are able to continue to grow from strength to strength.

I hope you enjoy reading the newsletter.



**Peter Milne**
Chief Executive

# North West Antenatal Study

**Improving outcomes for babies born in North West Tasmania: a quality improvement study**

**Assoc Prof Heinrich Weber**
**$79,927**

It has been well recognised that events in early life, foetal programming, influences the development of chronic disease in adult life. Furthermore, lung development during pregnancy affects respiratory disease and health in later life. Pregnancy therefore presents an opportunity to influence not only the immediate health outcomes of babies, but also chronic disease in adulthood.

In a recent local audit of all pregnancies in NW-Tasmania, it was determined that the major antenatal factors associated with poorer outcomes in newborn babies were smoking, obesity (body mass index (BMI) before pregnancy) and gestational diabetes mellitus (GDM) during pregnancy. Obesity and smoking in pregnancy both lead to potentially preventable morbidity and mortality in both mothers and babies.

North West Tasmania has the highest rate of smoking during pregnancy in Tasmania which is also high compared to the rest of Australia. While smoking rates are declining overall, the decline was slowest in NW Tasmania and there has been no significant decline since 2013. Further, approximately 25% of pregnant women do not report that they are smoking.

This study will be the first Australian research project evaluating the impact of a Carbon Monoxide (CO) monitoring and obesity interventions during pregnancy on the outcomes of babies in an opt out program. If proven successful, this protocol will have immediate positive health implications for participants and their unborn children. This is of particular relevance to NW Tasmania where we have a higher proportion of chronic diseases such as obesity, diabetes mellitus, asthma and COPD. It will further explore pathophysiologic mechanisms, which includes collaborating with other researchers to extend the study which could potentially lead to identifying specific interventions for future use.

As these are relatively low-cost interventions it could have wider appeal and be realistically implemented into State-wide antenatal settings, and similar regions worldwide. If found to be successful, this could further impact chronic diseases in adulthood. Also, the detailed processes for continuous quality improvement would be available for use in the paediatrics department and elsewhere to inform future improvement activities.

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# Respiratory Effects of Smoking Devices

**Are newly introduced electronic smoking devices safe for smoking cessation and implications for SARS-CoV-2 infection (COVID-19)**

**Dr Sukhwinder Sohal**
**$80,000**

Every year tobacco kills more than 15,500 Australians with a consistently upward trajectory (Cancer Council Australia). While cigarette smoking remains one of the most pressing global health issues of our time, newer forms of smoking devices have been introduced across the globe in the last decade.

Electronic cigarettes (ECs), which heat a solution (e-liquid) to create vapour are commonly used, and the latest addition to this list is the introduction of heat-not-burn (HnBs) tobacco products branded as IQOS (I Quit Ordinary Smoking) by Philip Morris International (1, 2). HnBs are hybrids between ECs and traditional cigarettes i.e. they are equipped with a device that heats the product, without burning to generate aerosol and the product being heated is not a liquid but real tobacco. They are collectively known as electronic nicotine delivery systems (ENDS). ECs use is increasing at an alarming rate; it is believed it will surpass the use of traditional cigarettes in next 5 years, with global sales reaching US$10 billion. Electronic smoking devices are often considered a safer alternative to cigarettes; however, the risks are significant, including increased risk of COVID-19 vulnerability.

One of the differences between smoking and these new nicotine-delivery technologies is that cigarettes cannot readily be modified to deliver alternatives to nicotine, whilst the new technologies can and have been used to deliver various other licit and illicit substances. The tragic loss of numerous lives to vaping-related respiratory disease is signaling an urgent need for in-depth studies investigating ill effects of these devices on lung health.

This project will evaluate the effects of electronic nicotine delivery systems on inducing airway inflammation, evaluate the effects of electronic nicotine delivery systems on airway changes and investigate the susceptibility to COVID - 19. In addition, the project will generate increased awareness of these risks within the community, to deter established smokers from using these devices for smoking cessation and prevent young people from using them in the first instance. This research will have direct implications for patient health and will inform clinical practice.

The project will run for a period of 24 months and Dr Sohal will lead a team of co-investigators from UTAS, the Launceston General Hospital and the NW Regional Hospital in Burnie.

# Gastrointestinal Diseases

**Improving Patient Outcomes in Gastrointestinal Diseases using Evidence Based Practice Changes**

**Prof Nicholas Shackel**
**$52,034**

Australians enjoy world leading medical care, in part due to our recognition that clinical practice needs to be constantly reviewed and enhanced based on evidence and research. In gastroenterological disease, current research has identified a number of key areas that could be improved.

Recently appointed gastroenterologist to the LGH, Prof Nicholas Shackel will lead an engaged research team in the hepatology department to undertake three translational research projects which may lead to improved practices of care.

Firstly, bowel preparation prior to colonoscopy is inadequate in up to 35% cases and impeding proper inspection of the colon. This results in reduced diagnosis of lesions such as polyps and cancers. We plan to better understand what determines poor bowel preparation and then instigate practice changes which will result in better outcomes for patients and significant cost savings.

A second major project will study the frequency of frailty and muscle wasting in patients with inflammatory bowel disease. A therapeutic intervention with nutritional supplements will be undertaken to see if this can improve frailty, muscle mass and/or outcomes for these patients.

The third project will use a Fibroscan machine to assess liver fibrosis to identify patients with cirrhosis at risk of complications. Once such patients are identified they can be targeted with more frequent review aiming to avoid complications and minimize hospital admissions. The cornerstone of these projects is nursing led acquisition of data and the use of a dedicated data entry person. Databases can then be used to properly answer the outlined questions that form the basis of the proposed projects. Further, the long-term utility is increased as this resource can be used to answer new clinical questions as they arise in the future. Finally, the projects will offer exposure and training in advanced research methodology to both nursing and medical staff.

Ultimately practice change combined with better trained staff will lead to better patient outcomes.

Prof Shackel is a welcome and valuable addition to the medical team at the LGH and brings a wealth of experience as a senior clinician, a PHD scientist and experienced clinical researcher.

# Respiratory Research

**Early detection of early small airway abnormities in apparently normal smokers**

**Assoc Prof Andrew Williams**
**$15,794**

Chronic Obstructive Pulmonary Disease (COPD) is currently the fourth leading cause of death in the world and projected to be the third leading cause of death by 2020 making it a major public health concern. COPD is characterised by persistent respiratory symptoms and irreversible airflow limitations due to airway and/or alveolar abnormalities usually associated with exposure to noxious particles and gases.

The most important risk factor for COPD in the developed world is cigarette smoking, with studies demonstrating the deterioration of pulmonary function associated with COPD is directly related to the duration and number of pack-years of smoking. Dysfunction of the airways, lung and fine blood vessels is common in smokers, yet early abnormalities are not detected with spirometry. It is believed that small airways (<2mm) are the initial sites of damage in COPD however current diagnostic tools such as spirometry are not sensitive enough to measure early changes in the small airways before the disease process becomes irreversible.

This project is the first in a proposed series of studies, each producing results necessary for the next stage, that will investigate new methods of measuring lung damage at an earlier stage of the disease process while it is still potentially reversible.

The identification of reliable and valid methods of measuring early lung damage has important implications for diagnosis, development, and implementation of early treatment strategies and could potentially change the disease trajectory.

# Preventing Hospital Admissions due to Falls

**Does regular phone call follow up for adults who have completed a supervised Strength and Balance exercise program, enhance motivation, increase home exercise adherence, improve functional ability and prevent hospital admissions due to falls?**

**Olivia Mitchell**
**$52,140.00**

Falls prevention is a national priority. Falls are a leading cause of morbidity and mortality in older adults. Approximately 30% of adults over 65 years of age experience at least one fall per year. The risk of falling increases with age. This is set to increase as Australia's population ages, the proportion of people aged over 65 is predicted to increase from 15% (3.8 million people) in 2017, to up to 23% (10.2 million people) in 2066.

The Tasmanian Health Indicators (2013) reported a significant number of hospitalisations occur in people aged 65 years and over had increased by a total of 13,946 hospitalisations in males (59%) and 9,770 hospitalisations (42%) in females between 2002 and 2011. Falls in the elderly could be potentially preventable hospitalisations.

The aim of this project is to increase exercise adherence and reducing falls and hospitalisation following a strength and balance program by employing a telephone follow-up strategy for 12 months following group completion.

The project will measure whether monthly telephone support for clients following completion of the Community Physiotherapy delivered Strength & Balance exercise program, result in improved Home Exercise Program (HEP) adherence, improved functional ability, reduction in community falls and reduced hospital admissions. It will also explore what motivates or discourages participation in ongoing exercise to be able to provide the right treatment approach to the right cohort of people and enhance the treatment effect.

Mrs Mitchell is a new researcher and will be joined by allied health co-investigators from Primary Health North to undertake the project.

# Prostate Surgery

**Impact of Nurse Led monitoring of Category 2 and 3 transurethral resection of the prostate (TURP) or holmium laser enucleation of the prostate (HoLEP) surgical patients during surgery waiting periods on prioritisation of care and satisfaction levels post-surgery**

**Annette Barrett**
**$27,073.20**

Benign prostatic hyperplasia (BPH) is extremely common among middle-aged men, affecting approximately 50% of men aged 50 years old, and up to 90% of men aged 90 years or older. BPH can lead to lower urinary tract (LUT) dysfunction and have an impact both on general health conditions and on quality of life. Research indicates 95% of men would prefer not to live with symptoms for the rest of their life and, 79% of men reported that BPH negatively influenced their life.

Consequently, it is not surprising that urological conditions pose a significant burden of disease, ranking 15th by disease group and accounting for 35,520 disability-adjusted life years in Australia, or 1.5% of the total disease burden. The high incidence of BPH which increases with age, the impact on quality of life and the burden of disease indicate the importance and impact of appropriate, effective management and care.

The project aims to determine if nurse-led monitoring for patients awaiting elective Category 2 and 3 transurethral resection of the prostate (TURP) or holmium laser enucleation of the prostate (HoLEP) in North and North West Tasmania impacts on pre-and post-surgery clinical outcomes and client wellness and quality of life.

It will also determine the most beneficial aspects of pre-operative nurse-led monitoring of men waiting for surgery. The project will also investigate if there are specific client factors which correlate to an increased likelihood of a need for escalation of care or early surgical intervention during the pre-operative period and which could inform prioritisation of pre-operative nurse monitoring and support or development of additional monitoring or surgical prioritisation categories.

# Motor Neurone Disease – Multicentre Therapeutic Trial

**Randomised double-blind placebo-controlled Phase 3 trial of Triumeq in motor neurone disease**

**Dr Lauren Giles**
**$58,870**

This is the first time an international multi-centre motor neurone disease therapeutic trial has been offered locally in Tasmania. Previously, patients with motor neurone disease would need to travel interstate to access clinical trials.

This therapeutic trial follows the positive Lighthouse 1 trial, which suggested Triumeq may have slowed progression of MND, although this trial was focused on safety rather than efficacy. Given the findings of Lighthouse 1, there is optimism this trial may be positive and improve treatment options for people living with MND.

Allowing patients living with MND access to trials is one of the main sources of optimism in what is otherwise a disease with a bleak prognosis. Being able to access trials closer to home will have tangible benefits to those living with MND, and their families and carers.

This trial will be the first multi-centre MND trial undertaken at the Launceston General Hospital and reflects the important benefits of the newly established neurology department at the hospital.

Through participation in this trial, our centre will establish links with the MND research community in Australia, with potential future research collaborations.

This larger study will look at how effective the treatment is at slowing down progression in MND. The trial is being run at multiple international sites, and in Australia is being co-ordinated by Macquarie University.

# Cognition in Multiple Sclerosis

**Associations with gut-brain biomarkers and exploration of cognitive symptom change in response to a nutrition intervention**

**Dr Cynthia Honan**
**$57,683**

Cognitive dysfunction is common in people with multiple sclerosis (pwMS) and can impact significantly on everyday functioning and quality of life. Recent studies have also found changes in the gut bacteria (gut microbiome) of pwMS. Importantly, gut bacteria are linked with inflammatory process, the brain's kynurenine pathway and resultant brain cell death. It is therefore probable that an imbalance in gut bacteria underlies the changes in cognition that occur in pwMS.

This research will investigate the effects of a probiotic intervention on cognitive symptoms in pwMS. It will also examine the extent to which inflammatory markers along the kynurenine pathway and an imbalance in gut bacteria is associated with cognitive dysfunction and cognitive changes over time. Benefits of the research outcomes will include reduced economic and health burden, improved clinical care, and improved patient health and quality of life. The research outcomes will also direct future research examining the gut-brain connection.

# Medical Research Training Course

The Clifford Craig Foundation will extend its commitment for research education at the Launceston General Hospital with an exciting new initiative that will enhance research expertise at the hospital.

The Foundation will provide funding and facilitation for an "Introduction to Research Course" which will commence in April 2021. The course is being designed to provide clinicians in medicine, nursing and allied health with the skills required to undertake a medical research project.

Involving a weekly lecture over a six-week period, the Introduction to Research Course is an initiative of gastroenterologist, Professor Nicholas Shackel who has recently joined the LGH after relocating to Tasmania from Sydney. Prof Shackel conducted similar courses at RPA and Liverpool Hospital in Sydney and is working with Clifford Craig Research Fellow, Dr Ianthe Boden and senior research nurse Maria Unwin to prepare the content for the LGH course.

An exciting component of the course will be the provision of two Early Career Research Scholarships which are to be funded by the Cuthill Family Foundation. The two $12,500 scholarships will enable two clinicians that are new to research to undertake a fully supported translational research study at the hospital.

Clifford Craig Foundation CEO Peter Milne noted the important benefits of further developing the research culture at the hospital through the provision of skills, training and resources to enable good research activity.

"The icing on the cake is the generous philanthropic support of the Cuthill Family Foundation for the resulting scholarships from the program."

THE CUTHILL FAMILY FOUNDATION

# Research Grant Announcement Function

*Assoc Prof Don McTaggart*

The successful applicants for research funding in 2021 from the Clifford Craig Foundation were announced at a special function held in November.

Attendance at this annual event was restricted due to less than 90 people due to COVID 19 requirements, however guests enjoyed presentations from each of the successful researchers.

Chairman of the Clifford Craig Foundation, Assoc Prof Don McTaggart convened the function which also included an in-depth update on COVID-19 by infectious diseases specialist, Prof Katie Flanagan.


*Prof Katie Flanagan*