

Translational Research Grants Scheme Recipients

2016



Health

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SHPN: (OHMR) 160425

ISBN: 978-1-76000-511-5

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September 2016

A Message from the Minister



Hon Jillian Skinner MP
Minister for Health

NSW has a global reputation as a resilient, innovative centre of excellence for health and medical research. To achieve this, it is critical that we have a high-quality health system that is responsive to scientific advances, and generates health, social and economic benefits for the people of our State.

It is a priority of the NSW Government to support health and medical research and this is why the NSW Government has invested in the sector at an unprecedented level - with more than \$1billion to be delivered in our second term.

The NSW Translational Research Grants Scheme will revolutionise the way we leverage research and innovation to improve health outcomes. The projects that have been supported will not only be directly translatable into better patient outcomes and health system improvement, but accelerate the adoption of research findings into practice.

As Minister for Health, I am passionate about embedding health and medical research in our hospitals, our specialty health networks and the ambulance service to deliver better health outcomes for the people of NSW.

Our investment in the NSW Translational Research Grants Scheme acknowledges the great value in encouraging research close to the patient to promote translation and innovation in health services as well as maximising the use of research in policy, practice and health service delivery.

To the many individuals who submitted applications I thank you for your ideas and persistence. Your efforts provide hope for a healthier future for the population of NSW.

A Message from the Minister



Pru Goward MP

Minister for Mental Health
Minister for Medical Research

Assistant Minister for Health

Minister for Women

Minister for the Prevention of Domestic Violence and Sexual Assault

The NSW Government is investing \$22 million in the Translational Research Grants Scheme which focuses on harnessing the world-class health research capacity within the NSW Health system, to improve the health and wellbeing of the people of NSW.

We conduct medical research because we know it leads to greater knowledge and understanding of specific diseases, new treatments and medicines, new skills, better practices, and better health.

A world class health system must be informed by world class health and medical research. Making sure that research is translated into practice and underpins treatment and delivery of health care is a priority for the NSW Government and the focus of the Translational Research Grants Scheme.

This is why I am delighted to announce more than \$10 million in grants to the successful projects in the inaugural round of the Translational Research Grants Scheme (TRGS). The successful projects include high quality research and rigorous evaluations, addressing a variety of topics including quality end of life care, childhood overweight and obesity, drug and alcohol, diabetes, cardiovascular disease, mental health, genomics, eating disorders, brain injury, and health system improvement.

The successful projects demonstrate excellent science and have strong cross-sector multi-site partnerships. Partnerships and collaboration amongst researchers and other specialist disciplines offer extraordinary added capacity for innovation and investment in medical research.

The scheme highlights the importance of research collaboration and utilising the knowledge and experience from within all areas of the health system. Drawing upon evidence based practice across all parts of the health and medical research sector ensures our research makes it out of the lab and into the health system as best practice. I am confident that these TRGS-funded research projects will enhance the research capability of the NSW Health system and improve the delivery of health care across NSW.

A Message from the Deputy Secretary



Dr Kerry Chant PSM
Chief Health Officer
Deputy Secretary
Population and Public
Health
NSW Ministry of Health

The Translational Research Grants Scheme (TRGS) takes an innovative approach to funding priority-driven research led by local health services in NSW. The TRGS aims to foster high quality research and evaluation directly relevant to health services in NSW and, most importantly, to reduce the time from evidence generation to practice implementation. This novel initiative was offered by NSW Health for the first time in 2016.

This first round demonstrated the enthusiasm within local health services to ensure that their practice is based on evidence. A broad range of proposals were received, from developmental, early proof of concept research through to proposals ready for testing in more general settings or at scale.

The TRGS was designed in consultation with the health sector, with an emphasis on Chief Executives committing to sustained local and state-wide implementation of successful projects.

The focus of TRGS saw over 800 people participate in the consultation phase and resulted in the many high quality applications received.

Assessing these high quality applications was a difficult task and I would like to thank the brilliant members of the selection panel and the sub-committee for their expertise and diligence. I also wish to acknowledge and thank Associate Professor Sarah Thackway and Dr Antonio Penna and their teams for their efforts in delivering this important initiative.

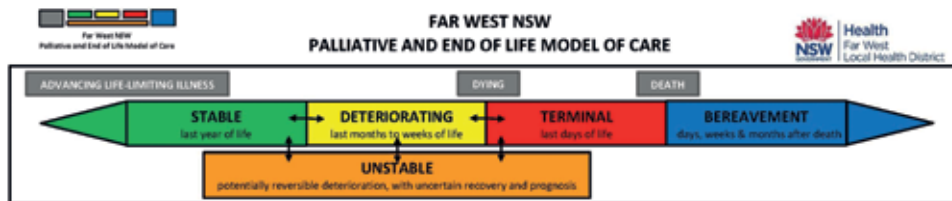
I congratulate the recipients of the Translational Research Grants Scheme Round 1 and look forward to seeing their progress over the next two years.

The Far West Palliative Approach framework

The Far West NSW Palliative and End of Life Model of Care used by the local specialist palliative care services (SPCS), has recently been implemented for the generalist context in a residential aged care facility (RACF) within the Far West Local Health District. Using the structure of the Model [Figure 1], the Far West Palliative Approach Framework was developed to further support and guide the provision of a quality palliative approach to care in rural and remote settings, by generalist and primary health care clinicians. Benefits are already being witnessed through implementation of this model: fewer admissions to hospital in the last year of life and an increased number and quality of deaths occurring at the RACF and in the place of the patient's choosing.

This research project will bring the Model and Framework to five new rural and remote generalist healthcare sites across the local health district. The associated Translational Research Grant will support the evaluation activity of this research project model rollout. The evaluation will examine the impact on patient care and identify key educational elements, processes and factors that are important for implementation and translation into different locations, settings, and contexts. Grant project outcomes will include development of an Implementation Kit to guide the introduction of the Model and Framework for wider application to other care settings and other local health districts. The Kit will include framework design, application templates and an audit tool.

Figure 1



Chief Investigator: Dr Sarah Wenham, Far West Local Health District

Collaborators: Lower Western Sector, Far Western Local Health District; (including Wentworth Hospital, Balranald MPS, Wilcannia MPS); Southern Cross Care (Broken Hill) Ltd, Broken Hill; Murray House Aged Care, Wentworth; Broken Hill University Department of Rural Health (UDRH), University of Sydney; Agency Clinical Innovation

Patient centred care to reduce unplanned readmission in 28 days

The Southern New South Wales Local Health District (SNSWLHD) clinicians identified the need to improve discharge planning and processes for improved patient care and to reduce unplanned readmission.

Unplanned readmission within 28 days reflects a breakdown in the continuum of care. Some unplanned readmissions may be avoidable. The rationale for unplanned readmission from the patients' perspective is poorly understood and not well described in the current literature.

A local working group of acute and community clinicians concluded that the key to reducing unplanned readmissions lay in gaining a greater grasp of the patient's issues and concerns. Their initial improvement initiatives had focussed on the clinician's perspective: discharge checklists, mapping the patient journey, compliance with policy and evidence based practice. These initiatives did not impact on nor provide insight on how to improve patient outcomes.

The refocus on the patient became the research project aim; to develop an understanding of patients' experiences of discharge/transitional care when they have an unplanned related readmission within 28 days of discharge. Patient outcomes were identified as safe ongoing health care and reducing unplanned related readmission.

The TRGS grant will resource the collection of information from patients who have experienced unplanned readmission within 28 days.

The patient experiences will inform a quality improvement project to develop and implement an evidence-based model of patient centred discharge care. The new process will be monitored and evaluated.

Improving care of the patients and reducing the number of unplanned readmission within 28 days will improve the experience for the patients and their family and reduce the impact on hospital bed occupancy.

Chief Investigator: Dot Hughes, Southern New South Wales Local Health District

Collaborators: South Eastern NSW PHN; Agency of Clinical Innovation (ACI)

Removing barriers to evidence translation: facilitating clinician and patient uptake of evidence-based stroke rehabilitation

This project aims to improve the health of adults in NSW who have had a stroke. Stroke is one of the leading causes of death and disability in Australia, and the hospitalisation rates in the regional area including Albury and Wagga Wagga are higher than the NSW state average. Uptake and application of The National Stroke Foundation's Clinical Guidelines for Stroke Management is a critical success factor in improving the health outcomes of stroke patients.

This project objective is to increase uptake and implementation of the stroke guidelines using a collaborative approach that includes allied health clinicians and research staff from Charles Sturt University. Web-based print and audio-visual resources will be developed to support clinicians to implement and evaluate their stroke-related care in two key areas: upper-limb rehabilitation and cognitive rehabilitation. The Translational Research Grant funding will support development and evaluation of these resources and will also enable translational activities including: 'How to....' videos, implementation checklists,

evidence summaries, print and visual media describing and modelling interventions. These resources will be made openly available through key stakeholder organisations such as the National Stroke Foundation's 'InformMe' website.

This project also involves people with stroke to ensure the perspective of consumers is clearly represented. A 'self-management approach' enabling people with stroke to better drive their own ongoing recovery will be developed and evaluated. The TRGS funding will also enable consumer involvement through a series of focus groups in the regional areas of Albury and Wagga Wagga.

Chief Investigators: Dr Leah Wiseman & Dr Melissa Nott, Albury Wodonga Health

Collaborators: Albury Wodonga Health; Media Services, Charles Sturt University; Stroke Foundation, Albury Wodonga Stroke Recovery Club; Occupational Therapy Australia; NSW Agency for Clinical Innovation; National Stroke Foundation

Promoting behaviours that protect against childhood obesity

Preventing obesity among children and young people is a NSW Premier's Priority. Published data reveals one in four children and adolescents across Australia are overweight or obese, less than 15 per cent of Australian adolescents meet the national Physical Activity (PA) guidelines, and 80% of adolescents do not consume adequate vegetables.

A key obesity prevention strategy is the implementation of effective programs to promote behaviours that protect against childhood obesity including physical activity and healthy eating. Despite this recommendation, few programs to date have been effective in impacting on adolescent weight status.

With respect to physical activity, a recent Australian program conducted in the Hunter New England Local Health District known as 'Physical Activity 4 Everyone' (PA4E1) has provided promising results. Physical Activity 4 Everyone encouraged five secondary schools in disadvantaged areas in NSW to implement a series of integrated strategies to promote physical activity among students. The program has achieved significant improvements in adolescents' recorded daily minutes of moderate-to-vigorous physical activity (MVPA) and weight status after 1 and 2 years of implementation.

Despite developing a promising physical activity program, there is currently little

evidence to guide the successful scale-up and population wide implementation of programs like PA4E1 in secondary schools. Without adequate implementation 'at scale' of such programs, their potential population health benefits cannot be fully realised.

From a nutrition perspective, little is currently known about how to support healthy eating habits throughout adolescence and within secondary schools. Only small scale programs have shown any promise in supporting healthy eating habits throughout adolescence.

TRGS grant funding for the proposed research project seeks to support the development and translation of program evidence to prevent overweight and obesity among adolescents in two ways:

- 1) Assessment of the effectiveness of a scaled-up delivery of the PA4E1 program in 76 secondary schools across four local health districts in NSW.
- 2) Assessment of potential effectiveness of secondary schools implementing healthy nutrition practices among students and the piloting of a program to promote healthy nutrition in a number of schools.

Chief Investigator: Professor John Wiggers, Hunter New England Local Health District

Collaborators: Hunter New England, Mid North Coast, Central Coast and South Western Sydney Local Health Districts; University of Newcastle

Sweet Smiles

The Sweet Smiles project aims to reduce the amount of sugar sweetened beverages consumed by children and adolescents, by targeting parents and children using public dental services in Northern NSW.

The project will investigate whether brief interventions delivered to children and parents by oral health staff will decrease children's sweet drink intake, and whether these interventions will result in referrals to the Go4Fun and the Get Healthy Coaching & Information Services. The study will also assess how much of an oral health therapist's time per day the brief intervention(s) may take, and explore how acceptable the intervention would be to Oral Health staff and parents, and the impact it might have on weight status and oral health.

Oral Health staff will educate parents and children about the importance of replacing sweet drinks with water, accompanied by printed resources, online and social media content and follow-up text messages offering referrals of parents to the Get Healthy service and overweight children 7-13YO to Go4Fun.

The brief intervention training and format, accompanying hard/online resources, data collection instruments, referral pathways and their incorporation into children's records, will all be available to use in the scaling up phase following the project's completion in Northern NSW. The TRGS funding will enable the development, supporting resources and thorough evaluation of the project.

All children seen in two of three clusters of Oral Health clinics in the District will receive interventions. Baseline data will be collected in both intervention and control clinics (n=6000). Follow-up data will be collected in a second appointment a year later.

Chief Investigator: Dr Avigdor Zask, Northern NSW Local Health District

Collaborators: Northern NSW Oral Health and Health Promotion teams; NSW Centre for Oral Health Strategy; NSW Office for Preventive Health; North Coast University Centre for Rural Health

Implementation trial of CIRCUITS – a technology based cognitive remediation program for people with schizophrenia

People with schizophrenia suffer persistent cognitive deficits, which impair their ability to function in everyday activities. These deficits cause substantial disability and many people require high levels of personal support with aspects of daily living in the community. Recent research has demonstrated cognitive remediation therapy (CRT) for people with schizophrenia has substantial promise.

One approach, with good preliminary evidence in the UK and Canada, is the Computerised Remediation of Cognition – Training for Schizophrenia (CIRCUITS) CRT program. The CIRCUITS program is an animated, internet-based program, specifically designed to improve patients' insight into their functional difficulties and provides extensive practice for the use of strategies to help overcome these difficulties in key areas of cognitive functioning. The program engages patients in graded, real world, ecologically valid tasks that are based on community access within a virtual village. These include use of public transport, meal planning and shopping and various real life problems encountered whilst out in the community.

This project will evaluate the implementation of the first CIRCUITS programs to be offered in NSW Health services. A mixed quantitative and qualitative approach will include a prospective, longitudinal design with a focus on patients' functional outcomes and experiences with the program. The project aims to evaluate patient outcomes and develop facilitator training and resources.

With the support of the TRGS grant, evaluation of the trial implementation of CIRCUITS in both inpatient and community contexts over two years will occur. This initial study will enable further research, potentially including future clinical trials – with the aim of working towards an evidence-based translation of the program across other relevant NSW Health services.

Chief Investigator: Dr Matt Thomas, Western NSW Local Health District

Collaborators: Justice Health; Pathways to Community Living; (PCLI); NSW Ministry of Health; University of NSW; Macquarie Medium Secure Forensic Mental Health Unit, Bloomfield Hospital, Orange; Metro South (Brisbane) Addiction and Mental Health Services, University of Queensland

Bundled Catheter Care (BCC) approach: an intervention study

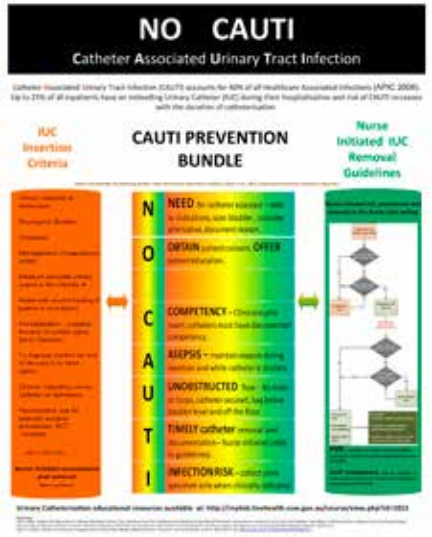
A new model of care aimed at reducing Indwelling Urinary Catheter (IDC) use has been developed and piloted in a small study in Hunter New England Local Health District. The care model is based upon 'bundled catheter care intervention' - an integrated set of evidence-based practices and steps aimed at reducing IDC use and catheter insertion duration times within the hospital setting.

Catheter avoidance and early removal are the most effective strategies in reducing catheter acquired urinary tract infections (CAUTI) which are one of the most common hospital acquired infections - they cause patient distress, embarrassment, discomfort, pain and activity restrictions, - as well as placing significant cost burdens on the healthcare system. The bundled catheter care pilot study has demonstrated a 50% reduction in IDC usage rates and significant associated reduction in IDC duration and CAUTI rates during its implementation to date.

This bundled catheter care intervention articulates clearly defined decision support pathways and provides evidenced based resources as part of a clinician's toolkit. The toolkit provides clinicians with IDC insertion criteria, IDC insertion and maintenance care bundle and a nurse led IDC removal decision flow chart (Figure 2 opposite).

The aim of the Translational Research Grants Scheme funded project is to trial and evaluate this promising pilot study on a much larger scale - to generate the evidence that the pilot findings are consistent and benefits scalable in wider application. Project data will inform state-wide implementation strategies and improve practice and outcomes related to urinary catheter care. Evidence in relation to populations and individuals most at risk can be captured so that resources and education can be targeted to areas of greatest need.

Figure 2



Chief Investigators: Wendy Watts and Michelle Giles

Collaborators: Central Coast Local Health District; Clinical Excellence Commission & Agency for Clinical Innovation; University of New England; University of Newcastle; Hunter Medical Research Institute

Counselling and Nicotine (CAN) QUIT in Pregnancy Rewards Plus

Reducing smoking during pregnancy is a priority research area, and included in several NSW and National Health Plans and Policies. Pregnant tobacco smokers who also use other substances (for example drugs like cannabis, ice, or heroin) are a particularly vulnerable and priority target population.

This pilot study will trial the acceptability and feasibility of an evidence-based smoking cessation intervention for pregnant women who smoke tobacco with other substance use problems. The intervention will use a combination of counselling and Nicotine Replacement Therapy delivered by a trained Tobacco Treatment Specialist. The study will also offer the women incentives (such as the reward of a shopping voucher) if they are able to quit or reduce their smoking.

According to the latest available evidence, this intervention will give women with tobacco dependence and concurrent substance use problems the best chances of quitting. Women who stop tobacco smoking have improved health outcomes for themselves and their infants with reduced risks of low birth weight, and other associated problems.

Pregnant women who smoke will be recruited into the study when they attend substance use in pregnancy services, at John Hunter Hospital in Newcastle and RPA Hospital in Sydney.

Translational Research Grants Scheme funding will enable recruitment and follow up on about 100 women attending the clinics. An economic assessment to measure the cost-effectiveness of the intervention will also be undertaken.

This research aims to generate new evidence about effective and translatable strategies for decreasing tobacco smoking in pregnant women with other substance use problems, and develop sustainable solutions in real-life settings. The study will provide important information of the feasibility, acceptability and uptake of effective tobacco cessation strategies, in a population that has extremely low tobacco cessation rates.

Chief Investigators: Associate Professor Adrian Dunlop & Dr Gillian Gould, Hunter New England Local Health District

Collaborators: Sydney Local Health District; NSW Ministry of Health; Agency for Clinical Innovation

Integration of the DTEXT program into the NSW Get Healthy Information and Coaching Service

In the next twenty years, the number of people in Australia with type 2 diabetes is estimated to increase from 870,000 to over 2.5 million, due to factors such as high rates of overweight and obesity and poor lifestyle behaviours. Research shows that lifestyle modification (e.g. physical activity and healthy eating) and self-management can improve glycaemic control and reduce complications in people with type 2 diabetes. By reducing type 2 diabetes related complications, there would be a significant reduction in hospitalisations and the associated economic burden on the health care system.

The aim of this project is to determine the effectiveness of a text message intervention (DTEXT) on lifestyle risk factor modification and diabetes self-management for people with type 2 diabetes, and its integration into the NSW Get Healthy Information and Coaching Service (GHS).

A pragmatic randomised controlled trial will be conducted in the Illawarra Shoalhaven Local Health District. The intervention group will receive mobile

phone text messages for 6 months; the messages will provide information and support on physical activity, nutrition, weight, smoking cessation and diabetes self-management. The control group will receive a diabetes fact sheet and usual care. The primary outcome measure will be glycated haemoglobin levels; secondary measures tested will include physical activity, nutrition, weight, and diabetes management.

Key features of the DTEXT intervention include the potential to directly improve lifestyle-related risk behaviours, high population reach, translation and multi-language delivery capacity, the minimal resources required, and potential for scale up to a statewide service if successful.

Chief Investigator: Dr Susan Furber, Illawarra Shoalhaven Local Health District

Collaborators: NSW Office of Preventive Health; Get Healthy Service, NSW Office of Preventive Health; Office of the Chief Health Officer, NSW Ministry of Health; Illawarra Shoalhaven Diabetes Service; University of Sydney & The George Institute; South Eastern NSW Primary Health Network

Wound Debridement Frequency and Healing Outcomes in Diabetic Foot Ulcers (The Diabetes Debridement Study)

In Australia, Sharp Wound Debridement (SWD) is performed routinely by podiatrists as an essential aspect in the management of Diabetic Foot Ulcers (DFU), most often within multidisciplinary High Risk Foot Services in the non-admitted setting. Diabetes-related foot ulcers account for 9900 acute admissions annually in Australia according to the Australia Institute of Health and Welfare (2004-2005).

There has been no systematic investigation regarding the method or frequency of this SWD treatment. Suggestions that debridement frequency may be important have emerged, but to date there is no established interventional data about the optimal frequency of debridement from appropriately designed clinical trials.

The awarding of this Translation Research Grants Scheme funding enables the conduct of a randomised controlled study of weekly versus second weekly debridement of DFUs - with direct potential for translation into clinical practice.

This study will address the deficit in evidence for debridement in the management of DFU and yield more data for standardising care and workforce requirements for the management of DFU by podiatrists. Baseline data on the effect of debridement as standard care in healing DFU will also be gathered.

Stakeholders in the study include Royal Prince Alfred Hospital Diabetes Centre (lead site), Concord Hospital, Bankstown Hospital and the Newcastle Centre at John Hunter Hospital. Conducting the study at multiple sites supports recruitment of sufficient numbers, improves generalisability of results and enlists the expertise of a broad multidisciplinary team of co-investigators.

The TRGS project proposal includes an audit of current debridement practice and resources across participating and non-participating treatment sites. Through this audit and a strategy for engaging clinicians via relevant forums we anticipate broad uptake of evidence into clinical practice.

Chief Investigators: Vanessa Nube & Professor Stephen Twigg, Sydney Local Health District

Collaborators: Bankstown Hospital, John Hunter Hospital, Royal Prince Alfred Diabetes Centre and Concord Hospital High Risk Foot Services ; Agency for Clinical Innovation; School of Medicine and Health, Newcastle University

Text messaging support for patients with chronic disease

The 'SupportMe' text messaging service for patients with chronic disease utilises simple technologies to improve ongoing support to patients in managing their condition – wherever they live, as long as they have a mobile phone. Western Sydney Local Health District research teams recently published results of a clinical trial of 'TEXTME' – a 6 month program of approximately 100 unique text messages sent to patients with heart disease that aimed to motivate, support and educate this target group about condition management and positive lifestyle changing behaviours.

The TEXTME trial demonstrated that that trial intervention patients receiving the lifestyle-focused text-message support program had lower LDL-cholesterol, blood pressure, BMI and smoking rates at 6 months compared to control groups. The SupportMe project aims to extend and translate this work into a service model for a broader patient population with chronic disease – including patients with diabetes and cardiovascular diseases and evaluate this as a clinical trial. This will be conducted within the framework of the Western Sydney Integrated Care Program (WSICP).

The data driving the need for programs like this to succeed is compelling: one in 3 Australians have a chronic disease, and chronic disease accounted for 90% of all deaths in 2011. The Australian Institute of Health and Welfare (AIHW) estimated that in 2008-09, direct health expenditure on chronic disease exceeded \$30 billion. In Western Sydney 8% of the population are known to have diabetes and around 20% of hospital admitted patients have diabetes.

The SupportMe intervention is a simple patient-centred intervention designed to provide semi-personalised support in clinical and behavioural management and link patients with providers and health services. Patients receive text messages at random times multiple times a week that are customised to support their medical management. The Translational Research Grants Scheme funding will enable us to rapidly implement this program across NSW.

Chief Investigator: Associate Professor Clara Chow, Western Sydney Local Health District

Collaborators: The George Institute, University of Sydney; Office of Preventive Health, NSW Ministry of Health; Office of the Chief Health Officer, NSW Ministry of Health; Illawara Shoalhaven Local Health District; Diabetes NSW, Heart Foundation

Implementation of a sustainable publicly-funded Constraint Induced Movement Therapy (CIMT) program

Constraint Induced Movement Therapy (CIMT) is an effective intervention for upper limb recovery following stroke and traumatic brain injury (TBI) that produces significant improvements in upper limb function compared to usual therapy, after only 2 weeks. Despite this strong evidence, there is a gap between CIMT research and practice. Lack of therapist knowledge of CIMT has been identified as one key barrier – one that is amenable to change with training.

The project team aims to establish if a 2-week publicly funded CIMT program can be translated into practice and sustained over 2 years across multiple health services in South Western Sydney LHD. Key questions are:

- 1) Do rehabilitation teams deliver more CIMT programs after receiving a CIMT implementation package?
- 2) Do stroke and brain injury survivors that complete a CIMT program achieve upper limb outcomes consistent with published outcomes?

The project will use a before and after study design. Medical record audits will be used at baseline and three monthly intervals to provide feedback to 8 teams of physiotherapists and occupational therapists in the District about CIMT

delivery. Staff focus group interviews will explore CIMT knowledge, attitudes and organisational barriers.

Intervention will involve a CIMT Implementation Package including a training workshop, support and mentoring from a practice community about CIMT delivery.

The proportion of eligible patient participants that receive CIMT during rehabilitation and individual patient upper limb function will be the key outcomes measured. The grant will be used to implement and develop training materials, fund educational workshops and assist clinicians in developing local strategies to overcome barriers to implementation.

Chief Investigator: Lauren Christie, South Western Sydney Local Health District

Collaborators: Liverpool Hospital & Bankstown Hospitals; Campbelltown/Camden Health Service; Ingham Institute; Health Education and Training Institute (HETI); Centre for Education and Workforce Development (CEWD), South Western Sydney Local Health District; University of Sydney

Implementation and evaluation of take-home naloxone for opioid overdose prevention

Naloxone is an opioid antagonist used to reverse opioid overdose. International and Australian research demonstrates the effectiveness of take-home naloxone (THN) for preventing overdose deaths in opioid users; the World Health Organisation recommends the expansion of such programs.

A pilot study in South Eastern Sydney Local Health District documented 18 overdose reversals using THN and identified barriers to THN uptake. The District subsequently developed a 10-15 minute THN brief intervention (THN-BI) that incorporates client education and the supply of 'overdose kits' with naloxone.

This project will establish the capacity to deliver THN-BI to opioid users attending Drug and Alcohol (D&A) treatment, Needle Syringe Programs (NSPs) and peer-led outreach programs in six Local Health Districts. Approximately 500 THN-BI will be delivered with each LHD catchment providing THN-BI to 100 clients (50 attending D&A, 50 at NSPs/outreach). The project will evaluate the effectiveness of THN-BI in enhancing knowledge and skills of participants in preventing and responding to overdose as well as examining the use of naloxone to reverse overdoses in the 3 months following the THN-BI.

The project will also examine the feasibility, sustainability and scalability of the intervention across NSW Health, by (a) examining barriers and facilitators to THN through staff and consumer feedback; (b) an economic analysis of the costs and potential savings to the health system arising from the THN-BI; and (c) refinement of THN policies/procedures, and training programs informing future rollout of THN-BI across NSW.

The funding from the Translational Research Grants Scheme will provide resources for project coordination, naloxone and overdose kits, and training workshops.

Chief Investigator: Professor Nicholas Lintzeris, South Eastern Sydney Local Health District

Collaborators: Murrumbidgee, St Vincent's, Hunter New England, Sydney & Western Sydney Local Health Districts; Mental Health and Drug and Alcohol Office, NSW Ministry of Health; Kirketon Road Centre, South Eastern Sydney Local Health Districts (SESLHD); NUA; Burnett Institute; National Drug Research Institute, SESLHD /UNSW; University of Sydney

Investigation of two interventions for tapering large doses of prescribed opioids in patients with non-cancer pain

High dose opioid (morphine like) medications prescribed to patients with non-cancer pain is increasing. Concern about the risks and weak evidence for prescribing long term opioid medications is rising. These medications do not provide effective pain relief in the long-term or improve quality of life and may cause a decline in physical, emotional and social functioning. There are also public health and social concerns about the prescribing of opioids.

Many patients want to reduce their dependence on opioids but feel constrained by fear of more pain and experiencing withdrawal symptoms when the dose is reduced. Currently there are few guidelines on reducing or ceasing high dose opioids. The purpose of this project is to study two pathways to reduce or cease high dose opioid use in patients with non-cancer pain:

1. Infusions of low doses of ketamine (an anaesthetic drug) under the skin over five days in hospital while the patients' opioid medications are stopped. The ketamine prevents withdrawal symptoms and helps with pain.

2. Slowly tapering high dose opioids in outpatient clinics, and using other medications to help manage pain and withdrawal symptoms.

The project will study whether these approaches are effective in achieving abstinence from prescribed opioids, or maintenance at a moderate dose, six months after completion of treatment. The project will also examine the relative costs of each approach. The participants in the study will be recruited from Port Kembla and Shoalhaven District Hospital pain clinic referral patients, plus satellite Aboriginal Health Centre clinic referrals in Wollongong.

The Translational Research Grants Scheme funding will assist with data collection, entry, analysis and ethics.

Chief Investigator: Clinical Associate Professor Geoffrey Murray, South Eastern Sydney Local Health District

Collaborators: South Eastern Sydney Local Health District; Pain Management Service, Prince of Wales Hospital; Pain Management Network, Agency for Clinical Innovation; Australian Health Services Research Institute

Improving management of comorbid substance use and mental illness with an integrated and stepped care approach

Comorbidity of mental and substance use disorders remains a major cause of disability and poses a significant challenge for the Australian health system. The silo structure of the health care system has historically treated clients with comorbid disorders in series for each disorder or in parallel by different treatment providers. Typically, treatment is incomplete and outcomes are poor.

Research has demonstrated that integration of mental health and substance use treatment is ideal for optimal client outcomes and to avoid clients falling through the gaps. An integrated, stepped care approach offers the potential for improved outcomes at reduced cost. A new approach to comorbidity treatment has recently been developed involving a Multi-modal Translation Intervention Package (MTP) to train counsellors and aid implementation of integrated care.

The Translational Research Grants Scheme funding will progress the development of the MTP initiative and enable evaluation of the MTP to promote the identification, assessment and clinical management of comorbidity within the drug and alcohol services of NSW Local Health Districts. Specifically, the project

will evaluate the impact of the MTP to increase uptake of integrated care and enhance clinician knowledge and attitudes of comorbidity; examine barriers and facilitators of implementation; and provide recommendations for future roll out across NSW Health.

Chief Investigator: Professor Paul Haber, Sydney Local Health District

Collaborators: South Western Sydney, Central Coast, Hunter New England, Mid North Coast, Sydney, South Western Sydney Local Health Districts; National Drug and Alcohol Research Centre, Agency for Clinical Innovation; University of New South Wales; Macquarie University Centre for the Health Economy

SMS SOS: Using SMS text messages to prevent self-harm

Self-harm injury is a national health priority, accounting for \$4 billion in health care expenditure each year. Studies indicate deliberate Self-harm (DSH), a potentially preventable form of injury, accounts for 27% of the health burden associated with injury in Australia. Repeated self-harm is also a major issue for public hospitals, with approximately 15% of those presenting with self-harm making a further presentation within the next 12 months. Repeated presentation is strongly associated with completed suicide, making it a significant focus for clinical research. Importantly, there is emerging evidence that self-harm re-presentations can be reduced when patients feel connected and cared for in the months following their hospital contact.

A previous study by the research team showed that a series of supportive mail-out 'postcards' did significantly reduce DSH re-presentations to hospital and associated hospital costs. Given technological advances in communications, SMS text messaging is well placed to now replace postcards - providing more immediate communication

and a more effective intervention. Teenagers and young adults, a key risk group for DSH, prefer texting to talking on their mobile phones for most forms of peer contact. SMS messaging has also been used successfully in other health intervention settings and found to be beneficial in changing health behaviours.

The Translational Research Grants Scheme funding will be invested in an 'SMS SOS' study conducted across Blacktown/Mount Druitt, Westmead and the Nepean/Blue Mountains Hospitals during 2016-17. It will examine the number and timing of DSH re-presentations among individuals receiving standard hospital follow-up care compared to those receiving standard follow-up plus supportive SMS messages every 1-2 months for 12 months following their initial hospital presentation. Should an SMS follow-up intervention prove to be effective in reducing DSH re-presentations, it would allow for a significantly more flexible, low-cost and deliverable medical follow-up system.

Chief Investigator: Professor Alison Jones, Western Sydney Local Health District

Collaborators: Blacktown Hospital, Office for Health and Medical Research, NSW Ministry of Health, Translational Health Research Institute, Western Sydney University, NSW Health, Westmead, Auburn & Mt Druitt Hospitals

Implementation of the INCOG guidelines for cognitive rehabilitation within the Liverpool Brain Injury Rehabilitation Unit

Traumatic brain injuries (TBI) arising from external insult to the brain most often affect young adults (peak incidence 15-24 years of age) and can lead to life-long, devastating disability. Ten million people are affected worldwide annually. In Australia, there are more than 2,500 cases of moderate-severe TBI each year.

Cognitive impairments caused by severe TBI strongly impact key areas of functioning and outcome. Many experience chronic problems in attention, memory and executive functioning that result in family breakdown, loss of friends, a failure to resume work and social isolation.

Despite the fact that guidelines for world's best practice in cognitive rehabilitation to treat such impairments have been developed for TBI, research shows that frontline staff rarely adopts best practice guidelines into everyday practice and that there is an urgent need for effective knowledge translation at the clinical level within brain injury rehabilitation services.

The Translational Research Grants Scheme funding will support the development of a knowledge translation project to test the efficacy of a recognised 4-step Knowledge

Implementation Model for TBI cognitive rehabilitation. The project will address the management of post traumatic amnesia within acute hospital and inpatient rehabilitation wards and assess the implementation of external aids for people with severe memory impairment post-TBI in outpatient community settings.

The project will analyse barriers to implementation, develop training resources, and then analyse changes in staff behaviour and patient outcomes arising from the project.

This work will be undertaken at Liverpool Hospital in the Brain Injury Rehabilitation Unit and Neurosurgery wards. For specialist brain injury services, the tested Implementation Model will then be used to progressively roll out across the 12 adult units of the ACI NSW Brain Injury Rehabilitation Program network.

This appears to be the first systematic knowledge translation initiative to implement the International Group of Researchers and Clinicians Cognition (INCOG) guidelines, both within Australia and internationally.

Chief Investigator: Associate Professor Grahame Simpson, South Western Sydney Local Health District

Collaborators: Brain Injury Rehabilitation Unit, Liverpool Hospital, John Walsh Centre for Rehabilitation Research, Kolling Institute, University of Sydney, Brain Injury Rehabilitation Directorate, NSW Agency for Clinical Innovation, BehaviourWorks, Monash University

Implementation and evaluation of an enhanced model of care for older surgical patients

The number of older people undergoing surgery continues to rise. Many of these people have complex health care needs including dementia that need to be considered before, at and after the time of any surgical procedure. Evidence already exists to support geriatricians and orthopaedic surgeons working in partnership to care for older people, delivering benefits which include fewer deaths, fewer complications and better functional recovery. Not only do older people benefit from this collaborative approach but the data also suggests that better care costs less.

This research will review if general surgeons and geriatricians working in partnership can lead to better outcomes for older people undergoing surgery in two hospitals from two Local Health Districts test.

The study will use a quasi-experimental design to evaluate a new approach to care in a complex health setting using data at all levels of the health system. Success will be determined by patient level factors (quality, safety, effectiveness, experience and outcomes) and

organisational factors (length of stay, readmissions, cost weights) and will include a formal economic evaluation of the model. The primary outcome measure will be acute length of hospital stay.

Key outcomes from a patient perspective include: fewer complications, more rapid recovery and more efficient care co-ordination.

The Translational Research Grants Scheme funding will support the shared care model project and conduct the health economic evaluation of the study that is critical to allow a realistic approach to service planning / re-organisation.

Chief Investigator: Professor Jacqueline Close, South Eastern Sydney Local Health District

Collaborators: Agency for Clinical Innovation Aged Health Network

Translating pathogen genomics into improved public health outcomes

This project examines the added value of pathogen Whole Genome Sequencing (WGS) for public health and clinical management of high burden communicable diseases such as tuberculosis, and two foodborne diseases salmonellosis and listeriosis. Epidemiologists will work together with microbiologists and public health professionals to examine the precision and timeliness of bacterial identification, genotyping and antibiotic resistance detection as well as the number, size and duration of outbreaks, and the proportion of sporadic or secondary cases. Enablers and barriers to the most optimal use of pathogen genomics by clinicians and public health professionals will be identified.

The use of the Translational Research Grants Scheme funding aims to demonstrate enhanced timeliness and accuracy of outbreak tracing through the rapid and improved recognition of previously hidden epidemiological links, and reconstruction of transmission events within outbreaks - including the directionality of disease transmission and specific source attribution. This should lead to improved public health outcomes

and superior infection control practices through more targeted and cost-effective interventions and resource utilisation. Statewide up-skilling of epidemiologists in genomic surveillance will also be a part of this initiative to facilitate the translation of this knowledge into public health practice.

Chief Investigator: Associate Professor Vitali Sintchenko and Professor Jon Iredell, Western Sydney Local Health District

Collaborators: Centre for Infectious Diseases and Microbiology-Public Health at Westmead Hospital, Pathology West, NSW Health Protection and Marie Bashir Institute of Emerging Infectious Diseases of the University of Sydney.

Early nurse initiated Fascia Iliaca regional nerve blocks for fractured neck of femur in elderly emergency department patients

Fractured neck of femur (#NOF) is a common, painful condition in the elderly for which regional nerve block (RNB) techniques provide effective and safe analgesia. Presently, RNBs are administered by doctors, usually later in the patient journey. RNB via Fascia Iliaca Nerve Block (FIB) has been demonstrated to be safe and effective when administered by trained nurses.

This project is designed on the hypothesis that early, nurse-initiated FIB (ENI FIB) can be successfully introduced and sustained within a tertiary level Emergency Department (ED) - and can be then generalised and scaled up to other EDs. It aims to demonstrate that ENI FIB can be delivered to a higher proportion of eligible patients than current practice, is at least equi-analgesic and equivalently safe with standard medical RNB, and can be delivered significantly earlier than medically-initiated RNB.

The TRGS study will include data collection and analysis related to current RNB/analgesic therapy. A core nurse FIB operator group will be trained at Royal North Shore Hospital (RNSH), prior to the

introduction of nurse-initiated FIB as the preferred regional nerve block procedure for #NOF. Data will be collected regarding enrolment rates, safety, pain levels and times to analgesia. Gosford Hospital ED will participate in the study six months after commencement at RNSH.

After twelve months, ENI FIB will be re-evaluated at both sites with respect to embeddedness, safety and effective practice. Potential benefits of the study include a significant increase in patients with #NOF having access to effective, safe and early pain relief; and roll out of an effective standardised ENI FIB program across the States EDs that is economical, utilising a 'train the trainer' model and a refined implementation Package.

Chief Investigator: Dr Mark Gillett, Northern Sydney Local Health District

Collaborators: Central Coast Local Health District, Agency for Clinical Innovation, College of Emergency Nursing Australasia, Australasian College for Emergency Medicine, RNSH, Kolling Institute, Gosford Hospital

Improve safety and efficiency of hospital management of young adults admitted with anorexia nervosa

Anorexia nervosa (AN) results in severe starvation with widespread organ dysfunction. Patients admitted to hospital with AN require restoring of essential nutrition to reverse malnutrition and its complications. However, conservative guidelines advocate reintroducing nutrition at a very slow rate to avoid complications. This slow feeding results in poor weight gain, which can increase the hospital length of stay.

There is a growing body of evidence that now supports feeding hospitalised adolescent patients with AN safely with higher caloric intakes, resulting in faster rates of weight restoration and a reduced length of hospital stay, without adverse side effects.

However evidence in higher caloric feeding is not as robust in the adult AN population. Of particular concern is the reintroduction of carbohydrate in a starved AN patient, which can lead to potential electrolyte derangement and increase the risk of developing refeeding complications. The standard enteral feed provided to patients requiring specialised feeding through a nasogastric feeding tube provides 54% carbohydrate, while the literature suggests the use of continuous feeding strategies with less than 40% of energy from carbohydrate.

The aim of this study is to test if a higher caloric introduction of nutrition using a higher fat content versus carbohydrate content will provide better health outcomes to adult patients with AN.

The study will be carried out across the two public hospitals in NSW that have specialist adult eating disorder inpatient programs, Westmead Hospital and Royal Prince Alfred Hospital. Approximately 60 adult patients aged 18-25 years old admitted with AN and requiring enteral tube feeding will be randomly assigned to receive either a standard feeding formula or a lower carbohydrate formula during their admission.

The Translational Research Grants Scheme funding will assist the development of this project by allowing adequate staffing resources to implement and coordinate the project across the two hospital sites.

Chief Investigator: Elizabeth Parker, Western Sydney Local Health District

Collaborators: Sydney Local Health District, Agency for Clinical Innovation, Centre for Eating and Dieting Disorders, Royal Prince Alfred Hospital, Westmead Hospital

Translating research evidence from the Healthy Beginnings Trial to prevent childhood obesity at the beginning of life

Tackling childhood obesity is one of the 12 Premier's Priorities in NSW, aiming to reduce overweight or obesity among children by 5% over the next 10 years. The importance of early obesity intervention in tackling this challenge has become clear, with accumulating evidence that excess weight and fast weight gain in early childhood are related to being overweight/obese later in life.

However, current evidence of effective early interventions is scarce. Consequently successful prevention strategies with a broad population reach and low cost have yet to be fully developed.

The study aims to take one existing program trial that has shown promise in delivering child body mass index reductions – The NHMRC-funded 'Healthy Beginnings' Trial - and translate evidence from this trial into a scaled-up practice applicable across the state with a low-cost, broad-reach and sustainable delivery model.

This proposed study compliments the improved infant feeding practices, healthy eating regime and reduced TV viewing time components of the of the 'Healthy Beginnings' Trial with written reference materials, plus SMS/or telephone support from early childhood nurses.

The proposed interventions will be delivered in the antenatal period and over the first 12 months. Four Local Health Districts will be involved to ensure the interventions are tested in diverse settings with varying populations. 12 month outcomes include BMI z-score, rapid and excessive weight gain, and feeding behaviour, as 12 month change is predictive of outcomes at 2 years. This project represents an important innovation in delivering a sustainable early obesity prevention program using existing service delivery infrastructure enhanced with relatively inexpensive methods.

Chief Investigator: Associate Professor Li Ming Wen, Sydney Local Health District

Collaborators: South Eastern Sydney, South Western Sydney and Southern NSW Local Health Districts, The NSW Office of Kids and Families , The NSW Office of Preventive Health, Centre of Research Excellence in the Early Prevention of Obesity in Childhood, University of Sydney

Quality end of life care

Advance Care Planning (ACP) is a process of reflection, discussion and communication that enables a person to plan for their future medical treatment, for a time when they are not competent to make, or communicate, decisions for themselves. ACP could significantly improve the quality of care provided to people suffering from serious advanced diseases by allowing patients to receive patient-centred care and avoid unwanted and / or inappropriate hospital admissions and treatments.

Research demonstrates that hospital wards are not ideal setting for ACP because decisions made when acutely unwell in an unfamiliar setting could markedly differ from decisions made when people are in a stable condition in their usual environment. Outpatient clinics are therefore better places to have these discussions. However, there is a lack of training and support for outpatient clinic staff to identify patients who may benefit from ACP discussions, and facilitate the ACP process.

This study aims to conduct a randomised controlled trial to assess if facilitated ACP intervention can provide positive outcomes in improved patient care. Participants will include 364 patients with

advanced diseases and identified as being at risk of dying in 12 months attending hospital outpatient clinics located in South Eastern Sydney Local Health District (Prince of Wales, Sutherland, St George) and the Sydney Local Health District (Concord).

The intervention participants will receive information on their condition and various future treatment options, and an experienced facilitator will help them to think about and make decisions on their condition, goals of care, and their future treatment options in collaboration with their usual treating health care team. The facilitator will also help to communicate the person's wishes to their local doctor, specialists, treating health professionals and the wider health care system to ensure that they will be followed in the future.

Chief Investigators: Associate Professor Gideon Caplan and Anne Meller, South Eastern Sydney Local Health District

Collaborators: Sydney Local Health District, Centre for Education and Research on Ageing, Academic Sydney Medical School, University of Sydney, Concord Hospital, , Aged, Chronic Care & Rehabilitation, Office of the Chief Health Officer NSW Health, Integrated Care Branch NSW Health, Central and Eastern Sydney Primary Health Network, NSW Ambulance Service, University of NSW, Alzheimer's Australia (NSW)

Development of tools to sustainably address inappropriate polypharmacy in routine care

This study aims to determine the extent and potential impact of inappropriate polypharmacy (use of harmful or unnecessary medicines) in older inpatients with and without dementia; - and to develop tools to sustainably address inappropriate polypharmacy in routine care. Reducing inappropriate polypharmacy in older inpatients, especially those living with dementia or near the end of life, will improve clinical outcomes including patient experience and reduce costs to patients and healthcare providers.

The study project will aim to establish a procedure to monitor and intervene on clinical variation in management of inappropriate polypharmacy between people with and without dementia, and those accessing different health services. The study collaborators will build on local existing pilot projects to design and pilot a sustainable multifactorial intervention for integrated pharmaceutical care. The intervention will adapt existing systems for medication management and communication between patients, hospitals and community practitioners.

Inappropriate polypharmacy is almost universal in older inpatients and is not addressed by routine care. Reducing polypharmacy was identified as a priority by a National Stakeholders' Meeting of clinicians, consumers, academics, policy makers convened in 2015. This project tackles many of the knowledge and systems barriers, creating a sustainable intervention within existing resources supported by existing quality frameworks and policy.

The benefits of minimising inappropriate polypharmacy include reducing adverse drug events including falls and cognitive impairment, and improving overall quality of life in older people. This will translate to reduced hospitalisation and length of hospital stay. The annual cost of inappropriate medicines and their adverse effects to Australia is in the order of hundreds of millions of dollars.

Chief Investigator: Professor Sarah Hilmer, Northern Sydney Local Health District

Collaborators: the North Shore Local Health District, Sydney Local Health District, Royal North Shore Hospital, Ryde Hospital, Hornsby Hospital, Concord Hospital, Canterbury Hospital; Balmain Hospital, NSW TAG, NSW Agency for Clinical Innovation Aged Care, Clinical Excellence Commission (CEC), Health Education Training Institute (HETI), Alzheimer's Australia NSW, Alzheimer's Australia, Sydney North Health Network, and eHealth NSW; Sydney Health Partners

