

Translational Research Grants Scheme Recipients

2017



Health

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A Message from the Minister



Hon Brad Hazzard
Minister for Health
Minister for Medical Research

The NSW Government is committed to ensuring that NSW remains at the forefront of health and medical research. Building a 21st century healthcare system to deliver ‘Right Care, Right Place, Right Time’ to our patients and their carers is a keystone priority for the Government. Bringing new innovations into the health system is essential to deliver this.

As the Minister for Health and Minister for Medical Research, I am passionate about embedding health and medical research into our health system because this is how we connect innovation with better outcomes for patients and create a more sustainable health system for the future.

The Translational Research Grants Scheme promotes a culture of collaboration within our health services. The scheme provides clinicians, managers and policy makers with the tools they need to translate research outcomes into policy and practice to deliver better patient care and create healthier communities.

I am delighted to announce over \$6.6 million in funding to the successful projects in Round 2 of the Translational Research Grants Scheme. The funded projects address system or local priorities, demonstrate strong partnerships across the system, and use high quality robust research methodologies to deliver policy and practice relevant outcomes.

The projects cover a wide range of priority areas including cardiovascular disease, mental health, vulnerable young people and families, quality end of life care, timely access to care in emergency departments, childhood overweight and obesity, Aboriginal health, pathology tests in emergency departments, new models of care for surgery and infectious diseases.

To the many individuals who submitted applications to the Scheme, I thank you for your ideas and efforts. You are the people who through ideas, collaboration and networking will continue to make the NSW health system world class.

A Message from the Deputy Secretary



Dr Kerry Chant PSM

Chief Health Officer
Deputy Secretary
Population and Public Health
NSW Ministry of Health

Now in its second year, the Translational Research Grants Scheme continues to show interest, enthusiasm and commitment from chief executives, researchers and clinicians within our health system. The Scheme has enjoyed the commitment of all partners to build on our collective achievements to ensure that the research we support is world-leading, and delivers better value care and health outcomes.

This initiative aims to accelerate the pathway from discovery to health, and to build the skills of researchers to facilitate this. Drawing on the lessons of the Scheme's inaugural year, this year saw substantial emphasis on ensuring that our researchers are closely engaged with the relevant partners across the system. Early involvement between policy branches, clinical networks and research groups has helped close the gap between scientific breakthroughs and better patient outcomes.

I was impressed to see the wide range of innovative ideas that emerged from within the health system in this year's submissions. The TRGS Independent Selection Panel was very impressed with the quality of applications and assessing these was a hard, yet rewarding, task. I would like to thank the members of the Panel and Sub-Committee for their expertise and diligence. I also wish to thank Dr Antonio Penna and his team for their efforts in delivering this initiative.

I offer my warm congratulations to this year's recipients. These innovations have the potential to have a meaningful positive impact on the health of the community. I look forward to seeing your research progress over the next two years.

A state-wide typing network for rapid detection of outbreaks of healthcare associated infection

Methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant *Enterococcus* (VRE) and *Clostridium difficile* (Cdiff) are three major pathogens responsible for severe healthcare-associated infections.

Tracking the spread of these pathogens through the hospital using strain typing (genetic fingerprinting) aids the identification of outbreaks. However with existing methods this information is not available in a timely fashion, lessening its value for directing infection control interventions to limit the size of outbreaks. A typing method that is rapid, accurate and inexpensive enough to be performed routinely would greatly potentiate the value of strain typing in infection prevention and control programmes.

The study aims to address the question: does incorporation of routine strain-typing into healthcare-associated infection surveillance lead to more reliable and rapid identification of outbreaks, and lead to reduction in cases of healthcare-associated infection?

The team will develop rapid, inexpensive, high throughput and accurate strain typing methods for VRE and Cdiff to complement the method we have already implemented for MRSA

The research team will make rapid strain typing for these three pathogens available for all NSW health facilities, and will test the ability of this new method to reliably and rapidly detect cases of healthcare-associated infection, compared with routine surveillance. The team will also measure rates of new episodes of healthcare-associated infection due to these three pathogens.

The findings are expected to demonstrate earlier detection and termination of outbreaks through the rapid and improved recognition of covert clusters.

It is anticipated that this intervention will reduce the number of healthcare-associated infections with a positive impact on individual patient outcomes, length of stay and healthcare costs.

Chief Investigator: Dr Matthew O'Sullivan, NSW Health Pathology

Collaborators: Clinical Excellence Commission, Health Protection NSW

An integrated care intervention to reduce breathlessness in patients with chronic obstructive pulmonary disease

This research project will determine whether an integrated care approach using non-pharmacological interventions in patients with chronic obstructive pulmonary disease (COPD) can reduce breathlessness, with consequent improvement in quality of life and reduction in health care utilisation and hospital admissions.

It is hypothesised that this approach will help patients to experience better mastery of breathlessness and a reduction in breathlessness, leading to increased quality of life and reduced inappropriate health care utilisation.

The research group will undertake a trial of short-term, intensive, non-pharmacological interventions added to standard care in patients with COPD and refractory breathlessness.

The primary outcome being measured by this study is mastery of breathlessness, with secondary outcomes of quality of life, breathlessness intensity/unpleasantness, anxiety and depression, and health care utilisation.

The intervention will be delivered over eight weeks and includes two multidisciplinary clinic visits and at least two follow up home visits/phone calls to reinforce education. The control group will consist of patients randomly allocated to an 8-week wait list.

At the first clinic visit, a Breathlessness pack with a hand-held fan, breathlessness crisis plan, DVD on breathlessness, relaxation CD and educational information will be provided. Over the subsequent weeks, tailored advice on breathing techniques, exercise, posture, energy conservation and nutrition will be provided.

The team will collect patient outcome and health care utilisation data up to a year after the intervention. Health economic and qualitative research evaluation will also be undertaken.

This study has the potential to generate world-wide interest in this novel approach to managing breathlessness in COPD. It is likely that the non-pharmacological interventions will become the standard of care for patients with severe COPD, and would become incorporated into routine clinical practice.

Chief Investigator: Professor John Wheatley, Western Sydney Local Health District

Collaborators: Agency for Clinical Innovation

Assessing the efficacy of a stepped care treatment program for Borderline Personality Disorder

Borderline Personality Disorder is a condition with major impacts on the health of the client, a significant burden on the client families' quality of life and high costs to health services. Approximately 10% of clients with Borderline Personality Disorder die by suicide. Costs to the health service include a high number of emergency department presentations and hospital beds occupied by people with this condition.

Psychological therapy is the mainstay of treatment of borderline personality disorder; however, the demand for psychological treatment has resulted in excessive waitlists for a high risk cohort.

This study aims to investigate the effectiveness of a stepped care approach, incorporating a briefer, less costly Dialectical Behaviour Therapy program in comparison to individual therapy. The trial will compare stepped individual therapy to stepped group skills training, informed by Dialectical Behaviour Therapy.

Each arm of the study will include two steps – a 12 week block and 16 week block of individual therapy or group therapy. Participants will be randomly allocated to one of the two arms. Following the intervention, participant symptoms, functioning and service utilisation will be evaluated.

The results of the project will provide evidence to inform an effective clinical pathway for Borderline Personality Disorder, reflective of both the NSW State Health Plan and The Living Well Strategic Plan For Mental Health. Further, the model will be consistent with NHMRC clinical guidelines, which supports psychological therapy as the first line of treatment for Borderline Personality Disorder.

It is proposed that the stepped care model will effectively address the current issue of long wait times and costly treatment for psychological treatment. The research team anticipate that this will be of significant interest beyond local services and plan to publish in the mental health journals and present the findings at conferences.

Chief Investigator: Judy Pickard, Illawarra Shoalhaven Local Health District

Building capacity for child and adolescent community-based eating disorders service provision across a diverse health service

Eating Disorders are mental illnesses often with severe complications and high rates of morbidity and mortality. Around 4% of Australians are affected at clinically significant levels, with the highest incidence in 15-19 year olds. Eating disorders have been identified as core business for NSW Local Health Districts, with a requirement to implement evidence-based treatments.

Timely and appropriate care may reduce mortality and improve outcomes from eating disorders. Family Based Therapy for eating disorders is an effective treatment when provided by specialists.

There are currently no Family Based Therapy eating disorder programs within Hunter New England Local Health District. This intervention could foster policy and program development in this area, and prove useful for implementation across the state.

This study aims to answer the following questions:

1. Does implementation of Family Based Therapy treatment in community-based Child and Adolescent Mental Health teams across the district lead to effective and cost-effective improvements in patient outcomes?
2. Do specific clinician or organisational factors influence translation of Family Based Therapy from a specialist treatment to a more mainstream treatment model within these teams?

The intervention will include provision of specialist Family Based Therapy training, Family Based Therapy supervision, and resources to Child and Adolescent Mental Health clinicians. The study will compare patient outcomes for the intervention to usual practice.

The team will also undertake an economic evaluation investigating whether the new intervention is more cost-effective than usual practice, including health care system and direct patient costs.

Chief Investigator: Dr Melissa Hart, Hunter New England Local Health District

Collaborators: Sydney Children's Hospital Network

Campbelltown – Changing our Future: a whole of systems approach to childhood obesity in South Western Sydney

This study aims to translate a promising community-based systems approach previously trialled in rural communities in Victoria and ACT to childhood overweight and obesity prevention, and evaluate its effectiveness in improving the child obesity environments and behaviours in a socioeconomically and ethnically diverse urban community in south west Sydney.

This project will assess the effectiveness of the approach in changing food and physical activity environments, dietary and physical activity behaviours, and body mass index in children aged 5 to 12 years in this community.

This study will address these research questions:

1. How effective is a community-based approach to childhood overweight and obesity prevention in changing children's dietary and physical activity habits?
2. To what extent does the approach result in changes in local food and physical activity environments?
3. In the longer term, how effective is the approach in decreasing body mass and the prevalence of childhood overweight and obesity in these children?

The approach is designed to empower organisations and community leaders to lead change in their own community in an innovative and creative way which will contribute to sustainable improvements in the health of the children in their community. Successful initiatives from the program are more likely to be sustained as the community will be involved in identifying the issues and work on developing the solutions.

The findings from this project will support the state-wide effort to address the NSW Premier's Priority of "Tackling Childhood Obesity".

Chief Investigator: Professor Bin Jalaludin, South Western Sydney Local Health District

Collaborators: NSW Office of Preventive Health, Hunter New England Local Health District

Detecting child abuse and neglect in the emergency department:

Streamlining access to care and assessment for vulnerable children

This pilot study will determine the clinical utility and uptake of a child abuse and neglect E-Checklist in rural and metropolitan emergency departments. It will also determine if this E-Checklist and training improves clinician documentation and referral of suspected abuse cases, and clinician self-efficacy and outcome expectations when responding to non-accidental injury.

This project will audit the emergency department records of children aged twelve and under, who have presented to the emergency department with an injury. Following this an E-Checklist will be incorporated into the Electronic Medical Record directing clinicians to consider 'red flag' indicators of non-accidental injury. A training program will be provided to clinicians alongside the E-Checklist.

A positive E-Checklist will initiate an automated referral to a paediatrician, social worker or hospital child protection team and launch the Mandatory Reporter Guide.

Audits will be conducted again after the intervention and follow-up to examine changes in documentation and referral practices over the course of the intervention. Staff surveys will measure changes in clinician self-efficacy and outcome expectations in this context.

The potential benefits of this study include:

- Streamlined current practice in regional and urban emergency departments
- Increased speed and accuracy of detecting non-accidental injury and referral
- Improved communication to reduce emergency department admission time
- Timely referral to specialist paediatric care and child protection services, and
- Improved child injury outcomes and reduced child morbidity and mortality caused by repeat non-accidental injury.

Chief Investigators: Tara Flemington, Mid North Coast Local Health District and Associate Professor Jenny Fraser, University of Sydney

Collaborators: NSW Health, Sydney Children's Hospital Network, eHealth

Development, implementation and evaluation of a model of care for total knee and total hip arthroplasty surgeries

Over 80,000 primary total knee and total hip arthroplasty procedures were undertaken in 2015 in Australia. The annual number is increasing by approximately 4% annually with similar projections anticipated over the next 20 years.

Whilst these procedures are highly successful for advanced arthritis, they are costly and not without risk. Evidence exists to inform delivery of effective, appropriate and safe care to reduce post-surgery symptoms, risks and costs. Despite this, widespread practice variation exists.

This study aims to determine if adoption of a model of care for total knee and total hip arthroplasty decreases service costs and improves patient outcomes.

The study aims to develop a model of care that is highly acceptable to consumers and service providers because it has been developed using rigorous research-based methodology. The research team will then go on to identify high-priority areas within the model of care for implementation, and implement and evaluate the model of care.

The team will use a rigorous approach to generate an understanding of effective methods to reduce practice variation, improve patient outcomes, reduce health care costs, and how to support future translation of these outcomes.

The model of care development process will be guided by local processes and experiences of the Agency for Clinical Innovation. The method will be enhanced by the integration of cutting-edge research components to allow for evaluation of the development process.

Moreover, the process will be guided by the Model of Care Framework (developed in conjunction with ACI) and therefore provide an opportunity for it to be implemented and evaluated in practice for the first time in NSW.

The outcomes will provide information for future model of care and strategic framework development initiatives, thus contribute to system-level learning. In this context, the proposed process will bridge the divide between siloed research and policy processes.

Chief Investigator: Conjoint Associate Professor Justine Naylor, South Western Local Health District

Collaborators: Agency for Clinical Innovation, South Eastern Sydney Local Health District

Efficacy of normalisation of Advance Care Planning for people with chronic disease in acute and community settings

The benefits of Advance Care Planning (ACP) are well known. For example, patients' wishes and preferences for care will be respected, and families and health professionals are eased off from the burden of decision-making on patients' behalf.

This study aims to address how ACP can be normalised into practice, and if normalising ACP has an effect on increased 'Planning ahead' practices in acute and community settings.

The study intervention will involve 'normalisation agents' – a ward/unit ACP expert – to normalise ACP into practice in nominated wards/units in acute and community settings for six months.

The research team will measure the number of people who have an Advanced Care Directive in their medical records, the quality and validity of those Advanced Care Directive and other measures before and after the intervention. Individual and focus group interviews with patients, families and staff participants will be used to inform the challenges, strategies and implications for future policy and practice.

The research team will examine the various mechanisms that are necessary for the intervention to become a routine in practice, and to mediate the work that individuals and groups do both independently and collectively to embed and sustain a new intervention.

Normalised ACP will promote the actual process of discussing end-of-life issues, and leave patients and families with an increased sense of feeling cared for and understood, and will increase 'Planning ahead' practices among people with chronic disease in acute and community settings.

Chief Investigators: Peter Cleasby, Central Coast Local Health District and Sarah Yeun-Sim Jeong, University of Newcastle

Collaborators: Hunter New England Local Health District

Implementation of an Aboriginal Transfer of Care model:

Impact on unplanned readmissions and ED presentations

The Aboriginal Transfer of Care (ATOC) model extends traditional discharge planning to provide a new structured multidisciplinary planning process for Aboriginal patients being discharged from hospital. A pilot of the ATOC model in Campbelltown Hospital demonstrated a decrease in unplanned readmissions for Aboriginal patients.

The five essential elements of the ATOC model are:

- Transfer of care planning by a multidisciplinary team;
- Patient and carer/family understanding of the follow-up care plan;
- Patient's GP or Aboriginal Medical Service awareness of follow-up arrangements;
- Referrals organised with community providers; and
- Patients having medications, equipment and written patient summary information prior to Transfer of Care.

The project will refine, document and evaluate the ATOC model for Aboriginal patients aged 15 years and over with chronic conditions admitted to selected South Western Sydney Local Health District hospitals. The study will use a before and after design using linked administrative health data and qualitative research.

The study aims to determine to what extent implementing ATOC decreases rates of unplanned hospital readmissions, emergency department presentations, and rates of discharge against medical advice, among Aboriginal patients.

Potential benefits of this project include: improved transfer of care planning; improved follow-up attendance at community-based services; reduced unplanned readmissions, ED presentations, discharge against medical advice and poor health outcomes; and improved patient/carer experience.

If findings are positive, a suite of tools and resources will be prepared to guide implementation of ATOC in other LHDs.

Chief Investigator: Nathan Jones, South Western Sydney Local Health District

Collaborators: Office of the Chief Health Officer, Centre for Epidemiology and Evidence, Tharawal Aboriginal Medical Service, Western Sydney LHD, Nepean Blue Mountains LHD

Management of mental health, drug health and acute severe behavioural disturbance in Emergency Departments

This project will examine the feasibility and transferability of an innovative model of nurse-led mental health care in three emergency departments (EDs) include a large metropolitan ED, a regional ED at a Base Hospital, and a smaller rural ED.

In addition to testing the feasibility of this model of care, the study will evaluate the outcomes for patients with mental health, drug health and acute behavioural problems.

An implementation and evaluation study involving the collection of descriptive data, waiting times, surveys and interviews with staff and patients will be undertaken.

The team will translate findings from the successful model of nurse-led care trialled in the ED at the Royal Prince Alfred Hospital.

The aims of this project are to:

1. Implement an extended-hours ED-based mental health liaison nurse team that provides timely access to specialist assessment, therapeutic intervention and enhanced coordination of care.
2. Evaluate the impact of this service on waiting times, patient experience and satisfaction, timely and appropriate referrals, and patient follow-up.
3. Refine and articulate a model for this service that is transferable across a range of ED settings.
4. Develop processes, resources and guidelines to implement this new model of ED based nurse-led care.

Chief Investigator: Associate Professor Timothy Wand, Sydney Local Health District

Collaborators: Western Sydney Local Health District, Hunter New England Local Health District, Western NSW Local Health District

Secondary level child weight management services: the appropriateness, impact and effectiveness of new service models

Several Local Health Districts are about to implement a new service to deliver integrated weight management services for children and adolescents. This project will help to generate an evidence base for weight management models of care in participating Local Health Districts, as they are established.

The study will document a range of process, impact and clinical outcome measures in order to better understand the context and the effectiveness of each service model.

The study proposes to answer a range of questions about the different models of care including: what influences their acceptability, reach, participation rates and retention rates; how effective they are on weight management; what impact they have on eating, physical activity and sedentary behaviours; their costs and more.

The findings from this project will feed directly in to the NSW Premier's Priority work on "Tackling Childhood Obesity". The project will improve the design and delivery of local services for children and their families, in particular by enhancing the accessibility, acceptability, reach and impact of services for children and families from diverse regions of NSW.

As a result, health service managers and senior clinicians will be better informed about the types of models of care and health care pathways that may work best in their region. Further, children and adolescents affected by obesity will have improved access to services, which are currently very limited.

Chief Investigator: Professor Louise Baur, Sydney Children's Hospitals Network

Collaborators: NSW Ministry of Health, Hunter New England Local Health District

TAG – Telehealth Approach to Getting on Track in Time – Got It!

Getting on Track in Time (Got It!) is an early intervention model for children (K-Year 2) with disruptive behaviour problems. The TAG research project will examine the feasibility of providing components of Got It! via telehealth. It will be undertaken in the Southern NSW and Murrumbidgee regions, where telehealth models offer a potential solution to improve reach and cost effectiveness.

New knowledge from this project will assist in better understanding if the telehealth approach to Got It! is efficient, effective, acceptable and can deliver equivalent outcomes to the in-person model. This project will also provide new knowledge on if this model can be scaled to other settings and programs in the future.

The three specific research questions are:

1. Can the targeted group components of the Got It! Program be provided efficiently and effectively using telehealth?
2. Is Got It! delivered via telehealth acceptable to children, parents, teachers and schools?
3. Do disruptive behaviours decrease after involvement in the telehealth model? Are these results similar to the outcomes found for the in-person model? What works for whom, in what contexts and how – during this feasibility study?

The project has potential benefits on practices including children with behaviour problems and their families benefiting from early intervention mental health services where they otherwise may not have received it. It will also help to strengthen partnerships and capacity for translational research and experience in telehealth in Local Health Districts.

Modification of the in-person Got It! model for use via telehealth will increase uptake of this program and improve knowledge, capacity, skill and systems to support use of telehealth for Got It! and beyond to other programs and services.

Chief Investigator: Graeme Sloane, Southern NSW Local Health District

Collaborators: Murrumbidgee Local Health District, NSW Ministry of Health, Agency of Clinical Innovation

Thirsty? Choose Water! Behavioural Interventions and Water Stations in secondary schools

Childhood overweight and obesity is a significant public health issue. A key contributing factor to overweight and obesity in children is the consumption of sugar sweetened beverages.

This study aims to determine whether a behavioural intervention promoting increased water consumption and the provision of chilled water stations, alone or combined, increase water consumption and effects changes in in year 7 secondary school students' knowledge and attitudes and/or reduces the consumption of sugar sweetened beverages.

This study is designed to determine the effect of the “Thirsty? Choose Water!” behavioural intervention and the installation of chilled water stations. Sixty secondary schools will receive either:

1. Behavioural intervention,
2. Chilled water stations,
3. Behavioural intervention and chilled water stations, or
4. Neither intervention.

All schools involved in the study will have chilled water stations installed at the end of the project, if this is demonstrated to be effective.

The study will collect self-reported data from students, a school profile and an environmental scan at the start of the project. Student surveys will be repeated throughout the study. Regular water meter readings from the chilled water stations will be recorded, as well as school canteen sales of all drink types, throughout the study period.

This study will establish the effectiveness of the “Thirsty? Choose Water!” behavioural intervention and chilled water stations, either alone or combination, on increasing water consumption in adolescents. Information about barriers and facilitators to implementing these interventions will be documented. Packages to support the state-wide implementation of the “Thirsty? Choose Water!” behavioural intervention will be developed.

Chief Investigator: Niki Kajons, Central Coast Local Health District

Collaborators: Illawarra Shoalhaven Local Health District, South Western Sydney Local Health District, Health Protection NSW, Centre for Population Health

UnNecessary Tests In Emergency Departments (UNTIE): A Stepped-wedge Cluster Randomised Trial

Thirteen percent of all Australians visit the Emergency Department (ED) each year, with 2.69 million ED attendances in NSW. About half of all ED visits involve pathology testing, accounting for 52% of non-staffing ED costs.

Appropriate testing is essential for clinical care, however unnecessary tests not only represent waste in the health system, but can lead to over-diagnosis, over-monitoring with treatment errors, and prolonged ED length of stay.

The UNTIE study aims to measure and reduce the number of unnecessary pathology tests ordered, for 35 common ED presentations. It will do so by translating the 2013 Australian Guideline into practice.

UNTIE will gather empirical evidence from stakeholder interviews, and an automated data-analytic indicator, to understand and measure unnecessary test ordering. Using this evidence, UNTIE will design a multifaceted intervention program to reduce unnecessary pathology test use in EDs.

The feasibility, efficacy and replicability of this program will then be tested in a trial involving four EDs in Western Sydney Local Health District (Auburn, Blacktown, Mount Druitt & Westmead), projected to include more than 100,000 ED presentations.

If effective, UNTIE will improve quality of care, reduce length of stay, and improve ED access. NSW spent an estimated \$360m on ED pathology tests in 2015/16. Reducing 5% of pathology testing by avoiding unnecessary tests, will lead to a direct saving of \$18m per year.

Chief Investigators: Associate Professor Naren Gunja and Associate Professor Clement Loy, Western Sydney Local Health District

Waiting for speech pathology: Device versus advice?

The NSW Health Clinical Excellence Commission has indicated that access to services, including availability of specialist services such as speech pathology, is one of their major areas of complaint from patients.

Until the availability of speech pathology services meet demand, it is important to provide appropriate care while children are waiting for these services.

Over many years speech pathologists have been providing advice regarding speech and language stimulation for parents and children while waiting for direct intervention. In this information-rich age, parents also turn to the internet, using devices to support their child.

This study will be the first of its kind in the world to determine the effectiveness of “advice versus device” while children are waiting for speech pathology services.

The research team will develop an evidence-based, parent-friendly website to support active waiting for speech intervention. Following this, three to five-year-old children on speech pathology waiting lists will receive either:

1. Advice: about speech and language stimulation (usual practice for waiting list),
2. Device: provision of a website to stimulate speech and language skills,

All children will go on to receive speech and language therapy provided by a speech pathologist.

Speech, language, and communication participation outcomes will be measured by an independent speech pathologist before and after the intervention. Parent concern and engagement during each condition will be measured.

The outcome of this study will inform best practice regarding appropriate care while waiting for speech pathology services. If the outcomes are positive, the website and speech pathology advice packages will be freely available to families across NSW.

Chief Investigator: Emily Davis, Western NSW Local Health District

Collaborators: Sydney Children’s Hospital Network, Ministry of Health





