

**WESTERN SYDNEY**  
UNIVERSITY



**THRI**

Translational Health Research  
Institute

# TRIPLE VISION

## RESEARCH. PARTNERSHIPS. COMMUNITY.

Western Sydney is the epicentre of Australia's healthcare opportunities and challenges. Growing, urban, diverse and aspirational, Western Sydney is transforming, and needs a healthcare system that transforms with it.

To deliver this healthcare system we need a new model of health research – a model that integrates world-class research into policy and practice. A model that focuses on the community and supports seamless healthcare from primary and population health through to acute hospital treatment. A model that considers carers and families, the local economy and the environment.

Western Sydney University, embedded in the most diverse and interesting health community in Australia, is creating this new model: THRI. THRI is Western Sydney University's Translational Health Research Institute.

Western Sydney University produces world class research in public health and health services, psychology, nursing, human geography, paediatrics and reproductive medicine, microbiology, pharmacology, and many other important areas of healthcare. Our researchers cover diseases – both acute and chronic – health service delivery and new models of care.

THRI connects Western Sydney University's research to the nation's fastest growing urban population, Western Sydney. Research is most powerful when it is done in partnership and

THRI will partner with health practitioners, hospitals, local health districts, primary health networks and, of course, patients.

THRI will be a national centre for health and medical research, focusing on the integration and translation of research into best practice and policy, based on government health priorities and community needs.

THRI will be a research institute deliberately situated within and closely connected to its community – a grounding which gives it the diverse and vibrant social context necessary to deliver not only research rigour but, most importantly, relevance.

THRI and Western Sydney University are ready to deliver in genuine partnership with the community, government and industry. If you are seeking to increase access to health services, improve the effectiveness and efficiency of a service or health program, or even seeking innovative solutions to broader long term health issues in our region; come and talk to us about how we can work together as partners in THRI's new model of health research.

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# TRIPLE FOCUS

## QUALITY. ACCESS. VALUE FOR MONEY.

The ultimate challenge in healthcare is delivering an integrated system which provides timely access to quality services with limited resources. The challenge is intensifying as demand for quality medical and health outcomes increases exponentially with population growth and demographic shifts.

However, we know that quality, access and value for money are not mutually exclusive. For example, treating acute patients in their own homes often leads to better outcomes – both short term and long term – for the patient as well as using fewer resources. For sufferers of chronic disease, supporting and coaching patients to manage their condition leads to fewer acute admissions, shorter stays in hospital and more enjoyable lifestyles and health outcomes for patients.

THRI will overlay health research and strong epidemiological and data analysis with a deep understanding of broader social and economic factors. Together with partners across Western Sydney, THRI will drive health outcomes across a range of health and medical research priorities through the framework of quality, access and value for money.

Focussing on quality, access and value for money will enable the realisation of key NSW Government priorities as articulated in the 'NSW State Health Plan: Towards 2021':

- Keeping People Healthy
- Providing World-Class Clinical Care
- Delivering Truly Integrated Care.

At the federal level, THRI will align with many of the Department of Health's Outcomes including:

- Population Health - promotion of healthy lifestyles, disease prevention, health screening and immunisation.
- Access to Medical Services - Access to cost-effective medical, dental, allied health and hearing services.
- Primary Health Care - Access to comprehensive primary and mental health care services, and health care services for Aboriginal and Torres Strait Islander peoples.

# WESTERN SYDNEY AND BEYOND

## LOCAL. NATIONAL. GLOBAL.

Western Sydney is a wealthy, educated region tied to Australia's largest city. But Western Sydney's health statistics do not reflect its material, geographic and cultural advantages:

- Around \$4 billion is spent annually on acute care in our public hospitals, with much less allocated to prevention and management of disease in the community.
- Residents report a shortage of services and health care providers, particularly in areas of mental health and aged care.
- The health and economic burden of cardiovascular disease, diabetes, chronic kidney disease and respiratory disease is higher than anywhere else in Australia.
- Around 1 in 2 residents have a long-term health condition.
- Suicide in young males is higher than the state average.
- Around one in ten people report high to very high levels of psychological distress.
- Over half of our population are overweight or obese.

Western Sydney possesses the advantage of demographic diversity and the challenge of vulnerable communities – including indigenous communities; refugees and asylum seekers; and people with disability – who we know are often disproportionately impacted by health issues. This is why THRI will support these groups through translated research. Our research will apply across the population lifespan, from supporting new mothers and babies to the elderly.

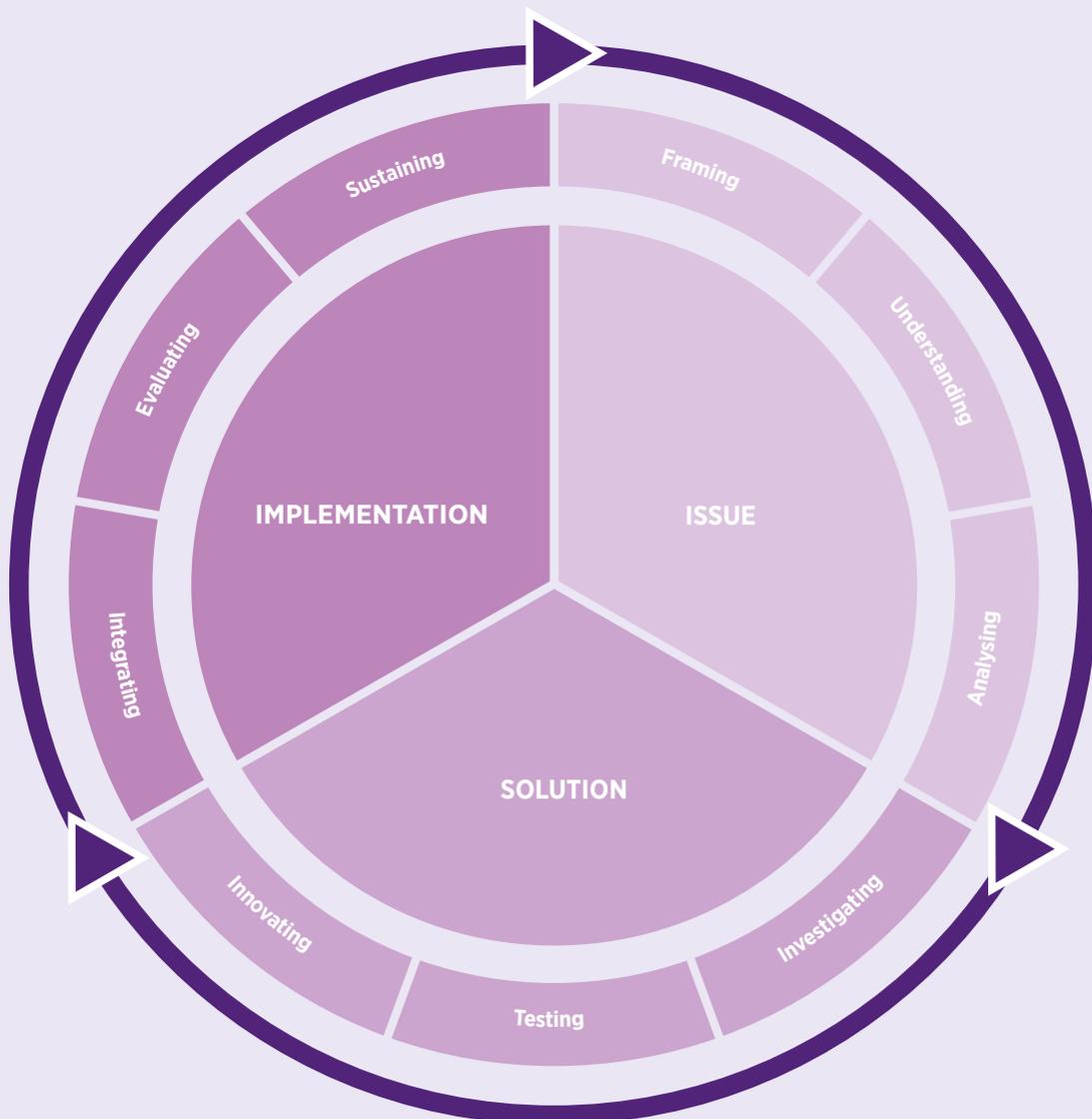
Embedded within our community, THRI will improve health outcomes such as:

- Preventing and managing chronic disease, including diabetes, obesity and cardiovascular disease
- Improving mental health, from children and young people through all stages of life
- Maintaining healthy living and wellbeing.

THRI will create multi-disciplinary research teams to develop practical solutions for specific health issues, including both new, cutting-edge research, and the use of existing research from around the world, refining it to work in our region.

Importantly, these solutions will not only benefit Western Sydney. As the epicentre of Australia's healthcare opportunities and challenges, solutions that work in Western Sydney will be relevant and applicable across Australia and the world.

# THRI'S TRANSLATION PROCESS



## LISTENING. COLLABORATING. DELIVERING.

The biggest challenge in health research is translating great research into better patient outcomes. Translation is a multi-faceted process, requiring context, facilitation and communication underpinned by an understanding of human behaviour and needs. It is about listening, collaborating, and ultimately delivering change, in partnership.

We will work alongside our partners to define the issues, explore solutions, implement changes and then continue to refine and improve them – creating lasting change in our community. It's the THRI model.



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## TRANSLATION

Cancer Australia has produced professional guidelines promoting the discussion of sexuality by health professionals.

Resources have been created educating cancer survivors on the sexual changes they may experience and how to cope with them.

A suite of cancer materials is being produced for LGBT patients and their carers.

# UNDERSTANDING DIVERSITY IN SEXUAL HEALTH

**Sometimes research uncovers things we don't normally talk about. For Professor Jane Ussher, exploring these unspoken things has been a pathway to new insights and better practices for those who are marginalised on the basis of their sexuality, gender or ethnic background.**

Jane and her colleague Professor Janette Perz are conducting ground-breaking research into the sexual health of those who have suffered from cancer. For the first time, they have examined the post-cancer sexual health of a diverse group of cancer survivors: men and women; those who have suffered from reproductive and non-reproductive cancer types; and those from the lesbian, gay, bisexual, transgender and heterosexual communities.

The results of Jane and Janette's research are compelling. They interviewed 657 cancer survivors and 148 partners of cancer survivors. Across all cancer types they found that sexual

frequency declined post-illness. Over half the women surveyed and just over 40% of the men reported that they never or rarely had sex after cancer. Nearly half of the cancer survivors rated their sexual relationship as unsatisfying.

But the numbers don't capture the experiences of those cancer survivors. While quantitative research can provide information about the nature of the changes to sexual health among this group, Jane says it doesn't 'enable analysis of the subjective experience and meaning of such changes for people with cancer.'

Giving a voice to those survivors by combining the numbers with research into survivors' qualitative experiences is an important difference between Jane and Janette's research and previous research into cancer survivors' sexual health.

A 51 year old heterosexual woman, a survivor of breast cancer, described her loss of intimacy with her partner:

'I feel very sad, I miss the intimacy and closeness we use to have 12 years ago. My

cancer 4 years ago has made the situation more difficult—my partner now sleeps in another bed and bedroom. I am heartbroken.'

A 53 year old gay man, a survivor of prostate cancer, described his experience this way:

'I feel inadequate—unable to express myself—and a whole heap of stuff that I am dealing with.'

But not all of the cancer survivors interviewed experienced their changed sexual practice as loss or inadequacy. Some were able to renegotiate the terms of their sexual relationship with their partners in ways that maintained intimacy, connection and enjoyment. A 59 year old woman, a survivor of lymphoma, described her post cancer sex as 'like, oh, two puppies playing together.'

*Photo (L-R): Professor Janette Perz, Professor Jane Ussher*



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## TRANSLATION

The Midwifery Initiated Oral Health Program (MIOH) has been developed as a professional training program endorsed by the Australian College of Midwives to improve midwives' ability to guide their clients towards appropriate dental health care.

The state of Victoria has adopted the MIOH program.

Ajesh is working with NSW Health to mirror the program in NSW.

# TARGETING ORAL HEALTH TO VULNERABLE MOTHERS

**Women are at greater risk of poor oral health during pregnancy due to hormonal variations, changes to their diet, and morning sickness. This heightened risk may have serious consequences for the baby, with evidence suggesting that poor oral health during pregnancy may lead to increased pre-term births and lower birth weights—particularly for women from lower socioeconomic backgrounds.**

And the risk remains after birth: decay-causing bacteria can be transferred from mother to baby through shared spoons and dummies.

Despite the consequences, pregnant women don't access dental services as often as they should. In Australia, only around a third of pregnant women see a dentist even when they have a dental problem, and across the developed world the figures are similar: in the

USA, it is between 23-49%; in the UK, even with a comprehensive 'free' dental care system offered through the National Health Service, it ranges from 33-64%.

Dr Ajesh George has been working to find the best way of improving the oral health of pregnant women. The main problem is knowledge: even though dental health problems are common in pregnancy, less than ten percent of women receive any information about oral health during their pregnancy. Antenatal care providers—midwives, GPs, obstetricians and gynaecologists—have limited knowledge about the safety of dental treatment during pregnancy and the impact of failing to have this treatment.

A survey conducted by Ajesh and his team to gauge the level of knowledge among antenatal care providers in NSW found an average correct response of 60% and that only 16% of those surveyed discussed oral health with their clients.

'We now know that it's safe to have dental treatment during pregnancy, including cleaning, fillings, extractions and even x-rays,'

Ajesh says. 'The consensus is that you need to address any dental infection during pregnancy to ensure the best health outcomes for both the mother and the baby.'

Ajesh has developed a first of its kind program to address the lack of knowledge about oral health during pregnancy, targeted at the pivotal role midwives play in the health outcomes of their clients.

'The Midwifery Initiated Oral Health Program (MIOH) is improving the knowledge and confidence of midwives to promote oral health as well as the oral health outcomes, knowledge, quality of life and uptake of dental services among pregnant women,' says Ajesh.

*Photo: Dr Ajesh George*

# ACTIVE PREVENTION FOR PHYSICAL AND MENTAL HEALTH



**Associate Professor Dafna Merom from the School of Science and Health and her colleague, Professor Andrew Page from the School of Medicine, are passionate about keeping people healthy, active and out of hospital.**

Dafna has been working in public health for over 25 years, researching how physically active lifestyles can help prevent and manage age-related chronic diseases and disabilities such as diabetes, cardiovascular disease, cognitive decline, and mental illness.

Andrew is a psychologist and epidemiologist who focuses on the social determinants of health, suicide prevention and mental health.

Their work together explores the physical health of those with mental illness. Sufferers of mental illness face a higher risk of physical health complications like metabolic syndrome—a cluster of medical conditions that puts patients at risk of cardiovascular disease and premature death.

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## TRANSLATION

**Dafna and Andrew are developing a health and nutrition program to support the physical health of patients with a mental illness. Patients will be able to build the skills they need to maintain a healthy weight and active lifestyle, improving both their physical and mental health outcomes.**

*Photo (L-R): Associate Professor Dafna Merom, Professor Andrew Page*

Together with their funding partner, Western Sydney Partners in Recovery, Dafna and Andrew are creating a physical health and nutrition program to help patients suffering severe mental illness avoid metabolic syndrome.

'Metabolic syndrome, particularly obesity, is exacerbated by the side effects of antipsychotic medications,' Dafna says. 'We want to develop an approach to treating mental illness that also incorporates increased physical activity and long-term healthy eating habits into the rehabilitation process, while patients are still in hospital.'

Dafna, Andrew and the rest of their team are working with Cumberland Hospital, Westmead to trial their program of healthy eating and exercise on patients. The trial has three simple steps. First a patient's activity level is assessed using an accelerometer—it's the same kind of device that an iPhone uses to measure movement. Second, the patient is offered advice on how to have a healthy diet and achievable exercise goals. Finally, the patient is assisted to participate in group exercises like Zumba and walking.

This program will help equip patients with the skills they need to maintain a healthy weight and active lifestyle—helping them stay just as Dafna and Andrew want them: healthy, active and out of hospital.



# CONNECTING WITH ONLINE SOLUTIONS

**56% of children aged between 12 and 17 access social media on their computer every day. 41% access social media on their phones every day. Young people are transforming their lives through digital tools, using networks that change the way they form relationships, access education and participate in politics.**

'Young people are at the forefront of engaging with digital media globally,' says Western's Associate Professor Amanda Third.

At the same time, young people face risks to their safety and wellbeing: online bullying, upsetting and explicit content and managing the increasing demands of being 'always on'.

'There is a real need,' Amanda says, 'to think more positively about the role technology is playing in young people's lives.'

Western Sydney University is part of the Young and Well Collaborative Research Centre—a

group of 75 university and industry partners undertaking research on how technologies can support young people to be safe, healthy and resilient.

Young and Well is a large, complex research activity with a simple aim: 'We are interested in the potential of technology to better support young people's mental health and wellbeing,' Amanda says.

Two of Western's researchers lead large research programs with Young and Well. Associate Professor Amanda Third leads the Connected and Creative program. Connected and Creative focuses on vulnerable and marginalised young people at risk of developing mental health difficulty. Dr Philippa Collin leads the Safe and Supportive research program for the Centre. Safe and Supportive develops strategies and tools to promote cyber-safety, mental health and wellbeing.

Just like the people they research, Amanda and Philippa's work is connected: with industry partners like ReachOut.com and with the young people for whom their work will make a difference.

'We don't do research for research's sake,' Amanda says. 'We do research that can be activated'.

The first step to activating this research is understanding the challenges from the community's perspective. As Philippa says, 'We work with communities to understand the nature of the challenges they are facing and the potential ways of addressing or remedying these from the perspective of those people and communities.'

So while Amanda and Philippa are connecting their research with policy and practice in the region and across Australia, there is even greater potential.

'There are many opportunities to make connections between Western Sydney, the online communities that we research and the international community,' says Philippa.

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## TRANSLATION

**The Safe and Well Online project has launched a series of online campaigns - Keep It Tame, Something Haunting You? and Appreciate a Mate - promoting positivity and respect in young people online.**

*Photo (L-R): Dr Philippa Collin, Associate Professor Amanda Third*





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#### TRANSLATION

The OMG Study:

- identifies issues in PIVC use for inclusion in international guidelines
- provides information on individual hospitals to compare with international guidelines
- serves both individual and sector-wide areas for development in education, quality control and patient safety.

# ENDING THE COMPLICATIONS

**Most of us have needed a ‘drip’ during a stay in hospital. Worldwide, around 50% of patients admitted to hospitals require the insertion of a peripheral intravenous catheter (PIVC)—the technical name for the ‘drip’—to receive IV fluids, medications or blood as part of a normal procedure. It’s the most common invasive clinical procedure performed in hospitals. But despite national and international guidelines for standards of practice in the ward, 40% of patients will still have a failed insertion in the course of a treatment.**

*Photo: Dr Evan Alexandrou*

Risk of hospital-acquired infection is increased every time that a drip is inserted into a patient, particularly in developing countries where poor resourcing means that patients have a 20 times higher chance of infection. PIVC failure costs the patient and the health system. It disrupts therapy and causes patient pain and infection; it increases the costs and prolongs the length of the patient’s hospital stay.

Despite the consequences of poor PIVC care and management there is little data on prevalence, management and infection prevention practise. Dr Evan Alexandrou has been working with an international team of researchers and clinicians to fill this knowledge gap and identify what clinical practices are most likely to cause failure.

Evan and his team conducted the One Million Global Catheters PIVC Worldwide Prevalence Study (OMG), auditing over 40,000 patients in 450 hospitals in 50 countries. The results are being analysed and will be released in April 2016.

‘We will be able to ascertain what contributed to these failure rates’, explains Evan, ‘then feed that back to clinicians and incorporate these

findings into clinical guidelines so that we can improve the care of these patients.’

Hospitals involved in the study have access to their results, providing invaluable information to better train staff in PIVC management.

Already, Evan has identified several issues in common practice including location of insertion. ‘If you had a cannula inserted in the hand or in the elbow, it was more likely to fail,’ Evan says. More concerning was the discovery that over 45% of patients with a cannula inserted didn’t have an IV order for fluids or medication and were placed at unnecessary risk of infection.

‘These were redundant cannulas,’ says Evan.

This research has had a profound impact on clinical practice both at a local and international level.

‘We have been able to develop these findings and are now starting to translate this research into clinical guidelines,’ says Evan. ‘We are hoping to make IV complications history.’

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