CHIRON

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Advancing healthcare for a changing world

Melbourne Medical School

THE UNIVERSITY OF MELBOURNE

Chiron [Kahy-Ron].

In Greek mythology, *Chiron* was one of the Centaurs, the son of the Titan Cronus and Philyra, an Oceanid or sea nymph, teacher of Achilles, Asclepius. *Chiron* lived at the foot of Mount Pelion in Thessaly. Unlike other Centaurs, who were violent and savage, *Chiron* was a wise and beneficent Centaur famous for his knowledge of medicine.

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NOTE: For space and readability, only degrees conferred by the University of Melbourne are listed beside the names of alumni in this publication.

COVER IMAGE: Professor Susan Sawyer AM FAHMS (MBBS 1985, MD 1995) is the Geoff & Helen Handbury Chair in Adolescent Health in the Department of Paediatrics, University of Melbourne and Murdoch Children's Research Institute. Professor Sawyer brings a systems lens to the risks faced by adolescents today and calls us to reclaim their mental health and wellbeing.

She's depicted at the 'Distraction' exhibition at the Science Gallery Melbourne, which explores the role digital media plays in the lives of young people. Read more on page 12.

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We acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of the unceded land on which we work, learn and live. We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy.

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Welcome
From the Head of School

"This year, my colleagues and I have also contributed our own thought pieces to share our perspective on areas of need – and how we can work together to meet them head-on."

This edition of *Chiron* shines a light on the inspiring ways our students, staff and alumni of the Melbourne Medical School are making a difference to the health and wellbeing of our communities by collectively meeting the challenges of a changing world as part of the Faculty of Medicine, Dentistry and Health Sciences' **Advancing Health 2030** strategy.

With a new Vice Chancellor Professor Emma Johnston AO, who commenced her role at the University of Melbourne in February 2025, I am excited that the Melbourne Medical School can contribute in important ways to the transformational change we need to see to prepare our students and society for the future.

Students are at the heart of everything we do and I invite you to learn about how we are embedding teamwork and compassion into their medical training.

In these pages you will find stories of game-changing AI diagnostic tools for safer pregnancy, fresh approaches to asthma treatment in regional Australia, and how personalised genomic approaches are leading to better ways to manage (and even cure) chronic diseases from cancer to epilepsy.

While these stories span diverse fields, at their heart is a commitment to advancing care that is genuinely transformative, inclusive and deeply collaborative.

This year, my colleagues and I have also contributed our own thought pieces to share our perspective on areas of need – and how we can work together to meet them head-on.

As you read these feature stories and thought-provoking articles, I invite you to celebrate the remarkable achievements of our Melbourne Medical School community and the global impact we are creating together. As always, I warmly welcome your feedback on how we can stay better connected with you.

Thank you

Sarath Ranganathan.

Professor Sarath Ranganathan
Head of the Melbourne Medical School

Appointment
of the 21st Vice-Chancellor

L-R Professor Emma Johnston AO as the 21st Vice-Chancellor of the University of Melbourne and University of Melbourne Chancellor, Jane Hansen AO.

University of Melbourne Chancellor, Jane Hansen AO, announced the appointment of Professor Emma Johnston AO as the 21st Vice-Chancellor of the University of Melbourne 30 September 2024

Professor Emma Johnston AO, a University of Melbourne alum, is the first woman to be appointed Vice-Chancellor of the University of Melbourne and commenced her role in February 2025.

“Professor Johnston is one of Australia’s preeminent University leaders, has a keen understanding of the issues facing the sector, a profound awareness of the Australian political context and is a strong advocate and a cogent voice for higher education. She has a proven track record of leadership excellence and transformational change. Her strategic thinking and inclusive approach will support the University of Melbourne to continue to thrive,” Ms Jane Hansen AO said.

Professor Johnston was formerly Deputy Vice-Chancellor (Research) at the University of Sydney, and prior to that she spent over 20 years at the University of New South Wales, where she rose to the positions of Pro Vice-Chancellor (Research) and Dean of Science.

Professor Johnston has a prominent research profile, specialising in the ecological impacts of human activities in marine ecosystems. She is a chief author of the current State of Environment Report for Australia and has authored 185 peer-reviewed journal articles and supervised more than 30 Higher Degree students.

In 2022, Professor Johnston was elected a Fellow of the Australian Academy of Science and was made an Officer of the Order of Australia in 2018 for her distinguished service to higher education, particularly to marine ecology, ecotoxicology and research institutes.

Professor Johnston said she was honoured to be chosen to lead Australia’s highest-ranked university where she has a long affiliation.

“I am a proud alum of the University of Melbourne, having obtained my Bachelor of Science and my Doctorate here. I served on the University Council and Academic Board as President of the Student Union in 1995, and I received an Honorary Doctor of Science in 2023.”

Preparing doctors for the *future of medicine*

By Sarath Ranganathan FAHMS
Head of the Melbourne Medical School

Chief Operating Officer at the Aikenhead Centre for Medical Discovery, Jason Lemaire and Professor Sarath Ranganathan climb the stairs of the atrium at the ACMD

Given the rapid change of the world today, I was asked to speculate about what the future of medicine might look like – and some of our plans in the school.

The future of medicine will likely be shaped by technological acceleration. So, at Melbourne Medical School, we're rethinking how we teach to prepare doctors for that future world.

Physicists speak of 'jerks': the acceleration of acceleration. In medicine, that means breakthroughs won't just arrive faster – they'll reshape practice more abruptly at exponential pace. Our Medical School graduates will be expected to use new tools, data streams and models of care that didn't exist when they entered the University.

Tomorrow's doctors will practice in a world saturated with information. AI-powered diagnostics will deliver the latest best practice, research evidence and safety advice via an earpiece as doctors do their hospital rounds. Hospital-in-the-home and wearable devices will transmit real-time health observations to doctors, while patients themselves will arrive at specialist appointments with pages of MedTech-generated insights.

In this future, the best clinicians won't be the ones who know every possible diagnosis. They'll be the ones who can interpret complex data, communicate diagnoses and treatment options clearly and compassionately, and build trust with patients who put their faith in 'Dr Google' or its successors.

The future of medicine will be human-led and tech-enabled, which is why Melbourne Medical School is shifting how we prepare students.

Our students will need to apply both sets of skills to their missions of curing chronic diseases, focusing on prevention and transforming health care. This is critical if future doctors are to ensure that tech enhances equity, rather than promulgating existing injustices.

This is why we will soon begin experimenting with new teaching technologies like virtual reality. We're also redefining what excellence looks like – empathy, adaptability, emotional intelligence and the ability to learn independently are just as important as academic brilliance.

A front-row seat to MedTech innovation

If tomorrow's doctors need to be fluent in evolving technology, we must immerse them in places where innovation happens. So, we are moving the St Vincent's Clinical School to the new **Aikenhead Centre for Medical Discovery** (ACMD), which opens later this year. There, our students will engage directly with cutting-edge MedTech development in a clinical simulation lab.

Located on the St Vincent's Hospital campus, the ACMD will bring together clinicians, major universities, leading research institutes and MedTech companies to co-develop new medical technologies and accelerate their translation into real-world care. Its proximity to a working teaching hospital offers a critical advantage – students, researchers and engineers can work side-by-side with clinicians and patients, turning ideas into impact through faster benchtop-to-bedside trials.

At the ACMD, undergraduates will interact with biomedical engineering PhD students and developers to learn about the future of MedTech. They will be mentored by clinical researchers and have opportunities to become future agents of change – all within the world-leading Melbourne Biomedical Precinct.

I'm also excited to place medical students at the heart of a truly interdisciplinary environment that we're calling Interprofessional Practice at St. Vincent's or 'Interpract@StV's'. This will enhance communication and collaboration between different health disciplines.

Redefining what makes a great doctor of the future

We also need to evolve what qualities we look for in future doctors and we will collaborate with colleagues at the School of Psychological Sciences to better understand and assess emotional readiness to practice medicine in this future world. Whether in conversation with a patient about health-promoting activities or leading a team in surgery, tomorrow's doctors must combine technical competence with empathy and emotional insight. So, we'll be focusing on developing these in our students.

Approaching healthcare as a team sport

As patients live longer and present with more complex, interrelated conditions and co-morbidities, no single discipline will be able to meet their needs in isolation. Hospitals will increasingly deploy large, interdisciplinary teams of doctors, nurses, allied health professionals and psychologists to deliver coordinated, patient-centred care. New disciplines such as medical technologists may be required to support them.

The new Aikenhead Centre for Medical Discovery building.

This means we can no longer train doctors in silos. Instead, we need to teach them in the collaborative environments where they'll be expected to work. The faculty's **Collaborative Practice Centre** is driving curriculum change with modules, workshops and interprofessional training. And the interprofessional training the ACMD's Interpact@StV's program will be one way in which we are helping students build the communication, leadership and teamwork skills essential to effective care.

We are shifting further away from traditional, fact-based assessments towards evaluations that require teamwork, communication and collaboration. In 2022, we removed ranked grading, so students are no longer in direct academic competition. Instead, they're encouraged to work in teams, support one another and reflect the values that we want to see in clinical settings – cooperation, compassion and shared accountability.

A great example of collaborative effort is our annual **student conference**, designed and run by a team of more than 70 people. This year's conference included a stream on 'humour in medicine' and another on 'stigma' – a strong signal that our students are focused on the humans they are treating.

Listen

Listen to Professor Ranganathan's *MMS Network* podcast, featuring conversations with students, staff and alumni who are shaping the future of medicine and education.

go.unimelb.edu.au/8qcp

Shaping doctors for a future beyond our imagination

The next generation of doctors need to be fluent in technologies whose potential we are only just beginning to understand, while also staying grounded in the human connections that define great care. By embedding our students in cutting-edge innovation environments like the ACMD, by redefining how we select and assess talent and through fostering interdisciplinary, team-based learning, we're preparing doctors to practice a very different type of medicine.

When they do master this, we hope they will remain engaged with the Medical School so they can update and upskill their teachers!

Professor Sarath Ranganathan tells Bachelor of Biomedicine student Sofia Mota Silveira about the features of the Clinical Simulation Room at the Aikenhead Centre for Medical Discovery

Inflammation city: *Mapping* medicine's most complex landscape

By Professor John Hamilton FAA (BSc 1963, PhD 1968, DSc 1990) and Associate Professor Tracy Putoczki

Alum Associate Professor Tracy Putoczki explains her research on pancreatic cancer cells, featured in the LED screen behind her, in an auditorium room at WEHI

From arthritis in our joints, inflammatory bowel disease and psoriasis, to cancer and heart and brain diseases, chronic inflammation is making us sick. Yet it's one of the least understood drivers of disease. Why is the body's own healing mechanism causing such harm?

Researchers are only just starting to piece together the underlying mechanisms. But new technologies could hold the key to understanding why the body struggles to regulate its powerful immune system, why persistent inflammation strikes and how to detect and treat it early – opening possibilities for curing chronic disease.

Most of us know inflammation as the body's short-term response to infection or injury. It's the immune system springing into action, sending reinforcements to fight off invaders or to begin the healing process. In this context, inflammation is not only normal – it's essential. But when inflammation is prolonged or misdirected, it becomes increasingly destructive.

Long-term inflammation – when the body continues trying to fix a problem that it doesn't resolve – is now known as a key cause of multiple diseases. What should be a helpful immune response escalates into a cascade of misfiring signals, triggering cells to behave abnormally and damaging otherwise healthy tissue.

This idea is not new. When **Melbourne hosted the Seventh World Congress on Inflammation in 2005**, the central theme was 'Inflammation, the key to much pathology'. This recognised that tackling inflammation requires system transformation in how we approach healthcare, moving beyond silos to integrated, cross-disciplinary models.

Of course, our evidence-based knowledge has progressed. The conceptual framework, I*3* – infection, immunity and inflammation – has emerged to describe how insults to the body can trigger self-sustaining inflammatory loops.

These loops underlie a growing number of diseases that collectively represent the leading causes of disability and mortality worldwide, such as cardiovascular disease, chronic kidney disease, fatty liver disease, type 2 diabetes and neurodegenerative diseases like Alzheimer's disease and Parkinson's disease. In all these conditions, the body identifies something abnormal and tries to get rid of it.

Potential inflammation triggers

- **Lifestyle factors** – Smoking and excessive alcohol consumption. The term 'meta-inflammation' is increasingly being used to describe a new obesity-linked landscape.
- **Ageing** – Due to increased life expectancy, the term 'Inflammaging' is an emerging concept.
- **Environmental factors** – Airborne pollutants, microplastics and the ongoing impacts of climate change are all suspected of provoking a growing incidence of inflammatory response.

Newly understood causes of chronic inflammation

Pathogens, like bacteria and viruses, used to take most of the blame for triggering inflammation. Long COVID brought renewed focus to the long-term effects of viral exposure. Recent research has indicated that **inflammation is associated with almost every human disease**. It has also shown that inflammation can be triggered by cells that monitor for tissue stress and malfunction, and that molecules participating in the inflammatory process play a role in restoring normal homeostasis.

Accordingly, inflammation can be defined as an immune response to potentially harmful stimuli or perturbations – such as injury or metabolic stress – in addition to pathogens. In other words, emerging research is uncovering a wider spectrum of triggers beyond pathogens, including modifiable factors that we can control.

However, many of the triggers and their impacts on inflammation-associated diseases will need to be defined by further research.

How does inflammation work?

Understanding how all these factors converge is one of medicine's great challenges.

We are only just beginning to understand how disturbances in one system – like the gut – can spark inflammatory responses in entirely different organs including the heart and brain. Rather than thinking of these organs in isolation, researchers now view inflammation as a dynamic, cross-system conversation among immune cells, tissues and microbial communities.

This shift is driving more interdisciplinary research into common mechanisms across diseases. For example, studies of the gut–brain axis are revealing how inflammatory signals in the digestive tract can influence neurological conditions, linking gastroenterology and neuroscience in new ways.

From this idea of a coordinated network of cellular communication spanning the body, a powerful metaphor is emerging: inflammation as a 'city'. Different cell types form 'neighbourhoods', immune pathways act as 'roads' and signalling molecules serve as 'traffic lights', controlling when cells activate or shut down.

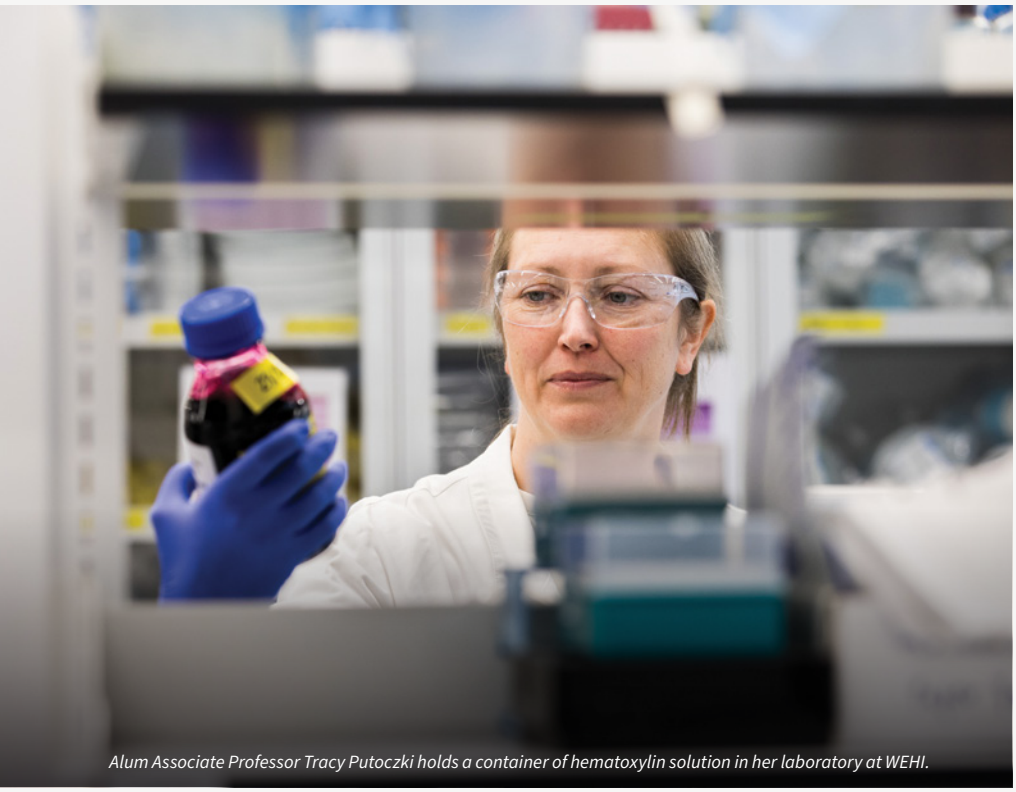
Until recently, we lacked even a basic street map. Now, researchers are starting to uncover the underlying infrastructure and gaining a better understanding of how it functions as a whole – what might cause, say, a red light to turn green.

Our city-wide view helps explain why common mechanisms are found across seemingly unrelated conditions. Inflammatory diseases like rheumatoid arthritis, inflammatory bowel disease and psoriasis share key molecular pathways.

When certain signals go awry in one part of the 'city', disruption can occur in a variety of other places. In other words, different diseases are caused by a shared underlying dysfunction.

As inflammation becomes better understood, medicine must evolve to match. Clearly, inflammation doesn't respect specialty boundaries. Depending on their symptoms, patients with chronic inflammation may present to cardiologists, neurologists or gastroenterologists. So, we need specialists and researchers to recognise the potential for a shared underlying cause and collaborate around treatment options.

For example, some therapies, particularly those targeting immune system messengers like cytokines, are proving to be effective across multiple diseases.



Alum Associate Professor Tracy Putoczki holds a container of hematoxylin solution in her laboratory at WEHI.

Where will breakthroughs come from?

The future of inflammation research will depend on greater integration – not just across disciplines, but also across populations. We need diverse patient representation in studies so we can stratify data to better reflect gender, genetic and environmental differences.

We also see great potential in advanced analytical techniques like spatial biology, which allow scientists to see which cells are active, and where and how they interact with the cells around them. At the same time, computational analysis will allow researchers to process enormous datasets from large numbers of patients.

Combining model systems, patient samples and clinical data could pave the way for innovative therapies to disrupt the inflammatory process. The more we learn about the molecular conversations driving inflammation, the more opportunities we will have to develop cross-cutting treatments that address the root cause.

Another avenue of enquiry is to identify early-stage biomarkers that can be detected by non-invasive screening. Right now, our ability to catch conditions like colorectal cancer early can dramatically improve patient outcomes. One day, we hope the same will be true for a host of other inflammatory-driven diseases for which we currently have no early screening options.

With better data, more diverse population studies and new technologies, the landscape of inflammation will be revealed – and with it the possibility of game-changing early intervention in some of our most devastating diseases. The goal is not only treatment, but curing chronic disease through earlier detection, broader prevention, and therapies that address root causes.

Help

Help shape the future of inflammatory disease research, care and treatment. Find out how you can support our researchers and students.

go.unimelb.edu.au/wz3p

Post-doctoral Research Fellow Kevin Lee speaks with alum Professor John Hamilton in the laboratory at the Department of Medicine, Royal Melbourne Hospital.

Reclaiming our *adolescents:*
Why today's mental health and wellbeing crisis requires a systems lens

By Professor Susan Sawyer AM (MBBS 1985, MD 1995)
Geoff & Helen Handbury Chair in Adolescent Health, Department of Paediatrics, University of Melbourne, Murdoch Children's Research Institute.

Professor Susan Sawyer AM standing outside the Science Gallery 'Distraction' exhibition

Adolescence has long been seen as a challenging time. New views embrace young people as one of society's greatest assets and we need to take a systems approach to supporting them.

The anatomy of a mental health crisis

There are growing concerns about the state of adolescent mental health and wellbeing. A recent cohort study my team and I published in *The Lancet Psychiatry* found that 74 per cent of 1,200+ participating adolescents in Melbourne had experienced significant symptoms of common mental disorders at some stage between 10 and 18 years of age. These were not one-off events. Persistent symptoms were rife – especially in adolescent girls.

Our findings correlate with other global studies that suggest that young people today are experiencing much higher rates of anxiety and depression than previous generations.

The dynamic development of adolescent brains

Puberty is a defining feature of early adolescence. Beyond its effects on the reproductive system and physical growth, hormonal increases also change the brain structures that process emotions, including the amygdala – which encodes fear and stress, and the ventral striatum that's involved in reward and motivation. This makes adolescents particularly reactive to emotional rewards and threats to their social status, especially from peers.

The adolescent brain's emotional response system – responsible for more impulsive behaviours – develops earlier than higher order cognitive decision-making skills and the capacity for emotional regulation. In the modern world, this 'developmental gap' increasingly places young people at risk, especially in the context of their peers.

For adolescents today, social media has emerged as an 'uber peer' that is creating increasingly toxic social environments. The wiring of a young brain and its emotions makes adolescents uniquely vulnerable to the constant judgement of manipulative, addictive, algorithm-driven social media feeds.

Beyond risks for mental health, body image and sexual grooming, time spent in the digital world also displaces activities that provide rich opportunities for meaningful social and emotional learning, including the skills and rewards that can come from delaying more immediate gratification.

Adolescents: our most undervalued asset and opportunity

In 2016, the **first Lancet Commission on Adolescent Health and Wellbeing** described the triple return from investing in young people's health: improved health and wellbeing in adolescence, adulthood and for the next generation.

Recently published, the **second Lancet Commission on Adolescent Health and Wellbeing** also acknowledges the incredible potential of adolescents to contribute to solutions. Adolescents' brains make them curious, courageous, creative, energetic and adaptable – traits that make them critical partners in shaping our collective futures.

Beyond the health system, we need to invest in the breadth of systems that can support, respect and empower young people to thrive.

Rethinking the power and purpose of schools

One of the most important of these systems is education, where there is renewed interest in **how schools can better promote health and wellbeing** alongside learning.

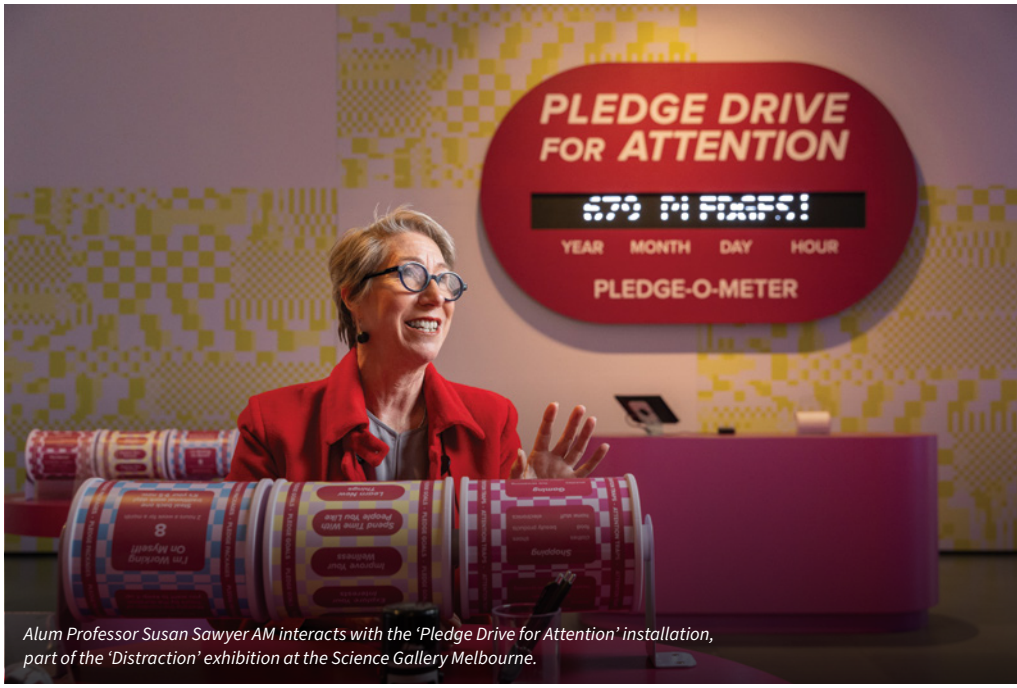
Traditionally, the health sector has viewed schools as useful platforms for delivering health education. But we now recognise that schools are where young people learn how to engage with the world – not just intellectually, but socially and emotionally. The tone and safety of the school environment, and the behaviours those environments reward, can shape life-long health outcomes, including mental health and wellbeing.

We saw emerging evidence of this 25 years ago through Victoria's **Gatehouse Project**, which studied whether secondary students' sense of security, trust and their ability to engage in positive social behaviours could be fostered by enhancing their social connectedness to their school community. **The results were remarkable – intervention schools saw a 25 per cent reduction in substance use, antisocial behaviour and early sexual activity.**

Globally engaging adolescents for better mental health and wellbeing

The Gatehouse Project's approach has since been replicated in diverse contexts across the world, bringing benefits for a variety of health and learning outcomes, including mental health. Known as 'whole-school' approaches and promulgated by the World Health Organization's 'Health-promoting Schools' framework, such interventions can be highly efficient by addressing health risks and social determinants that influence a variety of health outcomes.

For example, Japan's primary school lunch program, known as *Kyuushoku*, provides a daily nutritious lunch. Underpinned by a set of standards that ensure nutritional value and promote healthy weight, teachers eat alongside students to promote social connections, enjoying meals that are balanced, seasonal and local. The program enhances student wellbeing and mental health by promoting social connectedness with peers and teachers, while teacher supervision reduces bullying – a key risk for poor mental health.



Alum Professor Susan Sawyer AM interacts with the 'Pledge Drive for Attention' installation, part of the 'Distraction' exhibition at the Science Gallery Melbourne.

Ensuring young people are given a voice in shaping the social environments of their schools is critical to ensuring interventions remain fit for purpose.

Whole-school interventions are intended to benefit all students, but when implemented well, offer the greatest benefit to the most disadvantaged students. This includes **LGBTIQA+ youth, who are more likely to experience bullying** and who experience higher rates of depression and anxiety, as well as suicide and self-harm.

Victoria's Safe Schools program is an example of a whole-school approach to supporting LGBTIQA+ students. These approaches also particularly benefit students with neurodiversity, First Nations students and those outside mainstream cultures and religions.

Driving systems change

The benefit of fostering student wellbeing in schools is clear. But schools cannot make this shift without dedicated resources and government policy that articulates new leadership models, and teacher training.

A critical starting point is improving our understanding of adolescents. Primary teachers have a good grounding in early childhood development, but most high school staff lack a similar understanding of student needs. It's time that everyone working with, or forming policy for, young people has some training in adolescent health and development.

To achieve system transformation, piecemeal adolescent health programs must be positioned within a wider approach that ensures interventions target the most pressing social determinants (rather than the 'loudest' voices or issues), and identify where synergies are possible – including what can be discontinued.

Policy interventions such as the **Australian Government's world-first social media delay** may be helpful, but only if part of a broader strategy. Just as adolescent mental health is impacted by a complex set of related concerns – body image, sexual identity, weight, bullying, loneliness – its adequate support will also be found at the intersection of multiple, interconnected and aligned approaches.

As a community, we have a duty of care to both address the risks of adolescence and amplify the strengths of curiosity, courage, energy and adaptability embodied in young people. Fostering wider understanding of adolescent health, engaging young people as genuine partners in co-designing the solutions that support them, and taking a systems approach to the settings in which young people are growing up are all required.

We will all benefit from the next generation of young people focusing their energy, creativity, curiosity and passion on building a better world.

Alum Professor Susan Sawyer AM in a conversation with University student, Pooja Mandavia, during the STEMx Networking Event held at the Science Gallery Melbourne

Online study

Our fully online Master of Adolescent Health and Wellbeing equips nurses, doctors, teachers, social workers and lawyers to plan, implement and evaluate effective prevention and intervention strategies for adolescents. A new leadership stream was launched in 2025. Find out more.

go.unimelb.edu.au/5sg6

How AI innovations are *protecting* maternal and foetal health

By Bianca Nogrady

A clinician assists a pregnant woman using Kali Healthcare's foetal and maternal monitoring device at an obstetrics clinic

A baby's heartbeat is a barely perceptible signal that is easily lost in the biological cacophony of the womb. But finding and monitoring that tiny pulse is essential to tracking foetal health, detecting potential problems early, and acting quickly to save one – and possibly two – lives.

For those with high-risk pregnancies, this monitoring often means exhausting hospital trips several times a week in the later months. Juggling family, work and medical care becomes almost impossible.

This is one of a growing number of scenarios where artificial intelligence (AI) is improving the lives of patients.

At the University of Melbourne start-up, **Kali Healthcare**, electrical engineer Dr Emerson Keenan and his colleagues are developing an AI-based system for ongoing remote foetal monitoring. It is designed to help pick up early warning signs of problems and could potentially be used to predict when a woman is likely to go into labour.

"Technology is enabling us to do things out of the hospital setting that we couldn't do before," says Dr Keenan.

> *"So rather than having people go in for intense monitoring procedures and be in hospital for long durations, we can have it happen in the home setting and get the same clinical accuracy."*

The technology is not only investing in prevention but also improving health equity by improving the accessibility of high-quality care.

Homing in on the foetal heartbeat

Dr Keenan's interest in medical monitoring technology started during his honours year when he worked on a smartphone app to diagnose sleep apnoea based on breathing sounds. Soon after, he learned that foetal heartbeat monitoring technology had barely changed in decades – it still relied on an ultrasound probe being moved across the abdomen to track the heartbeat.

"I thought there's a really big opportunity here to develop something new, and something where I could put my interest to good use," he says.

Joining a University of Melbourne research group, Dr Keenan began a PhD exploring whether foetal monitoring could be achieved using electrical sensors, similar to those used to monitor electrical activity in the heart or brain.

The challenge was to distinguish the relatively faint foetal heartbeat amid the background noise, which offered a unique opportunity for AI.

"We spent a lot of time working out exactly where the sensors would need to be so that we could accurately pick up the foetal signals, as well as then developing algorithms that could interpret those signals to give us that foetal heart rate," explains Dr Keenan.

> *"It was through the use of an AI method that we were able to get the accuracy that is now enabling us to translate this into the clinic."*

Kali Healthcare uses neural networks: systems that 'learn' from existing data and apply those learnings to new data sets, much like the human brain. The aim is to provide hospital-in-the-home care for pregnancies at risk of complications.

The first step is monitoring the foetal and maternal heart rate and uterine contractions. However, Dr Keenan also hopes the device could be used to predict the likelihood that a woman will go into labour in the next seven days.

Currently in clinical trials, the device must show agreement with existing clinical standards to satisfy medical device regulators such as the US Food and Drug Administration. Early results suggest it will exceed the required benchmarks – an exciting future prospect.

L-R Alum Dr Emerson Keenan and co-worker Jessica Maung look at a prototype of Kali Healthcare's foetal and maternal monitoring device in their office at Melbourne Connect

Proving accuracy of algorithms

Proving accuracy is a major hurdle for AI-based medical technologies. At the Mass General Brigham and Harvard Medical School in Boston, Assistant Professor James Hillis (BMedSc 2007, MBBS 2009) is on the frontline of navigating that challenge.

After graduating from the University of Melbourne Medical School, Assistant Professor Hillis saw the impact that artificial intelligence was starting to have in many parts of society, which sparked his interest in the field.

In Boston, he joined a team developing AI algorithms for stroke-related applications and started to think about the evidence needed to apply for FDA authorisation. It was a steep learning curve, and Professor Hillis came to appreciate the unique skill set involved in assessing such algorithms.

"Our team very quickly realised there was a lot of interest from companies throughout the world – especially companies outside the US who wanted to get into the US market – to have a group that was dedicated to the evaluation of AI algorithms," Assistant Professor Hillis says. And he was part of a team that pivoted to provide the service.

Since 2020, Assistant Professor Hillis and his colleagues have worked on studies that have led to the FDA authorisation of 17 different AI-based devices. This includes one that flags brain scans with possible haemorrhage for more urgent review to another that interprets cardiac measurement on point of care ultrasound.

The idea is not to replace humans, but to provide them with further insights and improve accuracy and speed.

> *"With models that help to prioritise radiology scans, you've got the AI model working to do that, but you still have a human radiologist or neurologist or another clinician saying, 'Okay, I agree with the AI, let's move it to the next step'," says Assistant Professor Hillis.*

AI's greatest strength is its ability to parse huge data sets and find subtle signals or associations that human eyes and minds might miss.

"It's not possible for a human to compute everything that's going on in today's clinical environment," says Assistant Professor Hillis. "There is so much data that are generated as part of healthcare, with the potential for myriad insights that could benefit care.

"It is a very exciting time for healthcare, now and into the future."

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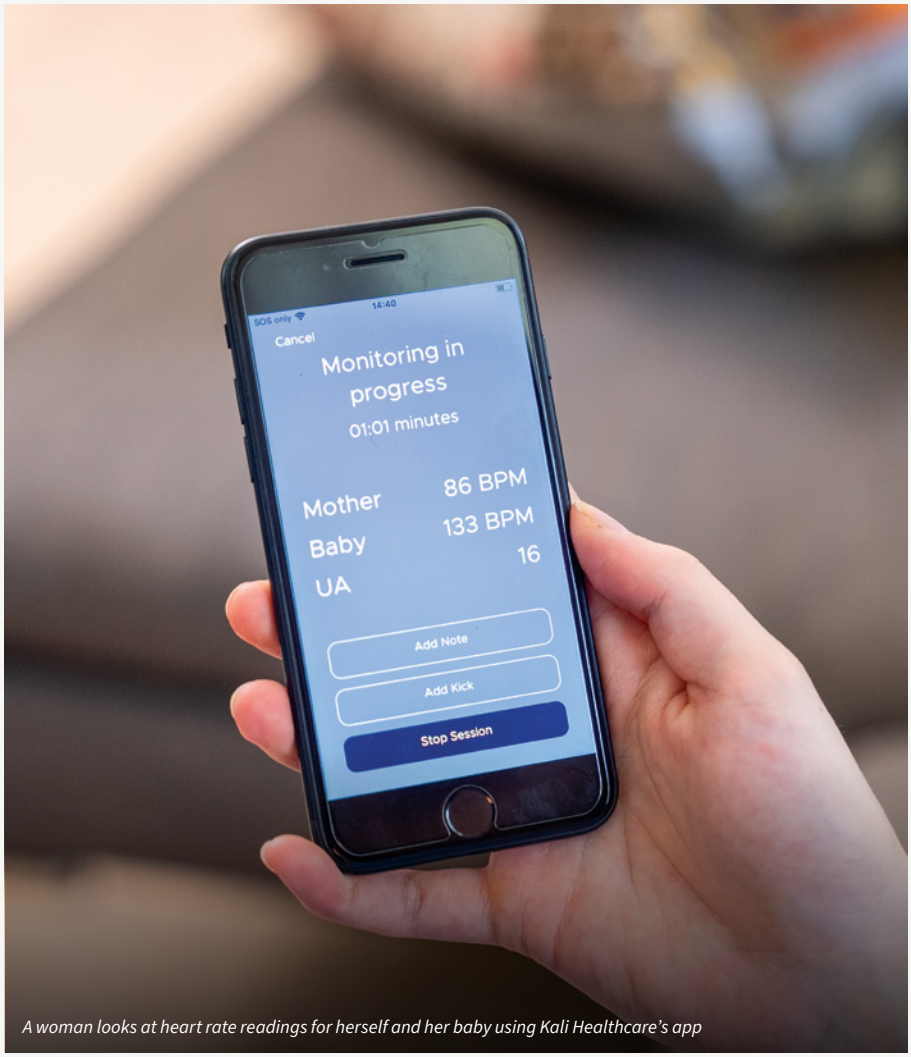


A woman looks at heart rate readings for herself and her baby using Kali Healthcare's app

Turning the tide on Australia's *deadliest* skin cancer

By Justine Costigan

With advances in precision medicine, personalised therapies and the possibility of a vaccine, surviving melanoma is no longer a pipe dream.

Luck isn't a word that most cancer patients associate with a melanoma diagnosis. But 14 years after she was told her original cancer had metastasised, Wamba Wamba woman, Melissa Sheldon, can now see that the timing was fortunate. When she was diagnosed with her first cancer, she was only 29.

> *"I didn't even know what melanoma was, so it was a big shock," Ms Sheldon says.*

By the second diagnosis, Ms Sheldon knew more than she ever wanted to. Her cancer was caused by mutations to the BRAF gene – the gene that plays an important role in cell growth. The lucky part? She was eligible to participate in a new clinical trial focused on targeted therapies.

"Both the medical team and I didn't know what would happen, but given it was stage four terminal cancer, I was always going to give it a go," she says.

Changing the odds

Melanoma is the deadliest form of skin cancer and thanks to Australia's climate and outdoors culture, Australia has one of the highest rates of the disease in the world. Yet, while melanoma was once a cancer with a five per cent survival rate at stage 4, precision medicine – such as the BRAF treatment – and targeted immuno-therapies have raised this figure to 50 per cent.

Few experts are willing to use the word 'cure' when it comes to cancer, but results for some melanoma patients are now starting to look like one.

When she joined the cancer trial in 2011, Ms Sheldon's oncologist was Professor Grant McArthur (BMedSc 1983, PhD 1994), now the Chief Executive Officer of the **Victorian Comprehensive Cancer Centre Alliance** (VCCC Alliance) and the inaugural **Lorenzo Galli Chair in Melanoma and Skin Cancers at the University of Melbourne.**

Ms Sheldon says Professor McArthur told her: "If we can keep you alive on this first trial for long enough, there'll be something else down the track. Essentially, we've just got to ride the wave."

From trial to transformation

It wasn't always smooth sailing. Ms Sheldon says the pair initially clashed. "I was a bull at a gate, to the point where he suggested I could go see someone else if I wanted to – which I didn't. He personally doesn't remember that, but I do because it was a turning point for me. I knew I needed to understand and listen to what he was saying," she says.

Now, Ms Sheldon is a lived experience leader at VCCC Alliance working closely with Professor McArthur.

"I just love that we're still friends," she says.

> *The trial fundamentally changed Ms Sheldon's prospects for survival. "It worked phenomenally well. It was like the best Christmas you could ever ask for," Ms Sheldon says.*

Professor McArthur's belief that there would be better treatments on the horizon was not just an act of faith. His research as a PhD student and post-doc was conducted at a time of major discoveries in the understanding of cancer.

"We were really trying to understand what cancer is, why cancer cells grow, and their unique features that might make them vulnerable," he explains. Since then, his focus has been on taking that knowledge and turning it into effective new treatments.

In 2024, 18,964 Australians were diagnosed with melanoma – an estimated 11 per cent of all new cancer diagnoses that year and the third most commonly diagnosed cancer. In 2011, when Ms Sheldon began her trial, melanoma was Australia's seventh most deadly cancer. In 2024, it had fallen to 11th position.

The ability to target the BRAF protein, which contributes to about 40 per cent of melanoma cases, has helped change these outcomes. Precision medicine, which targets the mutations in BRAF that make melanoma cells malignant, has an immediate impact.

"If a patient with a BRAF mutation comes to see me on a Friday, I give them a prescription for the targeted therapy drugs and tell them, 'Very soon, as early as Monday or Tuesday, you're going to feel a lot better,'" says Professor McArthur, who is also Head of the Molecular Oncology Laboratory, and a Senior Consultant Medical Oncologist at the Peter MacCallum Cancer Centre.

The other recent major treatment breakthrough is immunotherapy, where the cells that are involved in keeping cancer at bay are activated. It's a highly personalised therapy given it activates a patient's own immune cells that can work in conjunction with precision medicine to see many patients' tumours disappear.

Alum Professor Grant McArthur talking with previous patient and friend Melissa Sheldon over coffee at the rooftop garden at the VCCC

The fight continues

These outcomes should be celebrated, but there are still many patients whose cancer remains resistant to treatment.

"There are just so many mechanisms of resistance. People often use the analogy of the 'whack-a-mole' game, where you get the hammer and you hit one mechanism of resistance, then another one will inevitably put its head up and the cancer starts growing again," says Professor McArthur.

That's why one of his passions is prevention: identifying the presence of pre-cancerous genetic changes when the skin still looks normal and so raising the possibility of a vaccine to stop the cancer from forming, or using precision immunotherapy to activate the immune system to eradicate cancer cells and prevent them from ever coming back. It's an option that could see the end of the 'whack-a-mole' strategy.

The brighter road ahead

Although Ms Sheldon's cancer hasn't been cured and she lives with many side effects from her treatments, she has nothing but praise for the way melanoma treatment has developed since her diagnosis.

"The evolution has been so good for individuals. I often think, if I had been diagnosed a few years earlier, I would have probably just been offered chemotherapy," she reflects.

Two in three Australians will be diagnosed with some form of skin cancer in their lifetime. It's a disease that touches every family. But increasingly, the prognosis for melanoma is looking promising. Professor McArthur is cautiously optimistic.

"I've got guesses about what the next five or 10 years will be, but I might be wrong. There's certainly a growing trend of getting in really early, rather than waiting until a cancer has spread then trying to cure it," he says.

"I'm very excited about new neoadjuvant therapies where we give immune treatment before surgery, and particularly about personalised cancer vaccines. That's where we're likely to have the biggest impact. You know, there's already preliminary clinical data that looks very promising – and that's a game changer."

Online study

Professor McArthur convenes our fully online Master of Cancer Sciences, enabling scientists and clinicians to translate cutting edge-research into breakthrough clinical trials. Learn more.

go.unimelb.edu.au/ir96

2025 Leon Carp Award:
Tackling regional Victoria's child asthma hotspots

By Justine Costigan

Alum Dr Jimmy Tseng teaches Greater Shepparton Secondary College student Angus Mccully how to use an asthma inhaler in the school's clinic.

It sounds simple, but a new research project aiming to make sure every asthma sufferer has an up-to-date care plan might be an effective way to save lives – especially those of young people.

Hospital emergency rooms can be sobering places. Even people who are trained to work in them often find the tragic outcomes stay with them far longer than their successes. When Dr Jimmy Tseng (BMedSc 2008, MBBS 2011, PostGDipSurgAnat 2012, GCertUniTeach 2024) was training in emergency paediatrics at the Royal Children's Hospital in Melbourne, witnessing the deaths of children from asthma had a profound impact.

Dr Tseng knows what an asthma attack feels like. Both he and his brother suffered from asthma as children, sometimes needing hospitalisation. Improving their care was one of the reasons his parents decided to emigrate from his birthplace in Taiwan to Brisbane.

Now based in Shepparton, an asthma hotspot about two hours' drive north of Melbourne, Dr Tseng is at the coalface of asthma care. As a GP in the city's Princess Park Clinic and nine school-based clinics, as part of the Doctors in Secondary Schools program, he's seen many children with asthma whose treatment plans are out of date or ineffective. Now he's conducting research to see if that situation can be improved.

The danger of outdated treatment

According to the 2002-2003 World Health Survey, Australia has the highest rate of doctor diagnosed and treated asthma in the world. Rates of childhood asthma are disproportionately high in regional Australia. Victoria is second only to NSW in the number of child asthma hotspots in the regions.

> *"A lot of people's asthma isn't being treated appropriately," says Dr Tseng. "And it can be quite dangerous... especially if their asthma is getting worse."*

Dr Tseng received the 2025 Dr Leon Carp Award – a grant supporting research leading to improvements in patient care – for testing approaches to improve the use of best practice asthma action plans.

"Unfortunately, despite robust research and changes to the guidelines, there is still limited data on their use in practice," Dr Tseng says.

There are many reasons why patients may not have an up-to-date asthma action plan. Difficulties getting to see a GP, the lack of bulk-billing in regional areas, patients seeing a different doctor every time they visit a clinic, non-compliance with treatment, or GPs not having easy access to the latest treatment information are just some of the factors Dr Tseng believes are contributing to the problem.

While the guidelines mandate the use of a combination treatment such as Symbicort after a child turns 12, many children continue to rely solely on a Ventolin puffer long after they should have progressed to the adult medication. "In a worst-case scenario, if someone uses the ventilator by itself too much, they can end up in a position where the ventilator stops working," says Dr Tseng.

According to 2022 **ABS statistics** reported by The Australian Institute of Health and Welfare, 27 per cent of people aged 40 and under self-reported poor asthma control based on their medication use. Around 2.8 million (11 per cent) people in Australia are estimated to be living with asthma, and following the pandemic, **deaths from asthma began to increase** says Dr Tseng.

Discover

Are you a GP interested in addressing your community's health needs through research? Apply for the Dr Leon Carp Award.

go.unimelb.edu.au/2nqp

Taking action in regional classrooms

Professor Lena Sanci, Chair of General Practice in the Department of General Practice and Primary Care at the University of Melbourne, is supervising Dr Tseng's project and is enthusiastic about his research. She believes collaborating with clinicians should be a priority for the university. "That's where the rubber hits the road. Prevention…and keeping people well is really at the general practice patient interface," she says.

"We're very keen on clinician researchers, and it is quite challenging to get them back into research…you've got to really catch people at the right time of their career when they're passionate about something and they really want to answer the question they've been grappling with."

Dr Tseng's passion for improving care for children living with asthma clearly fits the bill. He is now reviewing asthma action plans at schools to see if they are current and conform to current guidelines. The research project will gather data to analyse whether these interventions have helped increase the numbers of children with up-to-date plans.

Dr Tseng will complete his research in 2026. If the results show his interventions have been successful, he hopes his work can become a template that can be replicated elsewhere.

"I just want people to follow best practice. If my method is actually shown to be helpful, and others can utilise it in their own schools and practices, that would be amazing," he says.

Alum Dr Jimmy Tseng stands in Greater Shepparton Secondary College's courtyard near a sign reading 'Doctors in Schools'.

Treating the person, *not the disease*, for better health outcomes

By Bianca Nogrady

Professor Christobel Saunders AO in rooftop garden at Peter MacCallum Cancer Centre.

Professor Christobel Saunders AO received a Health Services Research Award at the 2024 Research Australia Health & Medical Research Awards.

A woman in her late forties facing a double mastectomy for breast cancer decides to postpone the recommended breast reconstructive surgery because, as her family's sole breadwinner, she needs to return to work quickly.

A man in his seventies with end-stage kidney disease would benefit from multiple haemodialysis sessions every week to filter toxins and waste products from his blood, but he wants fewer sessions so he can still collect his grandkids from school.

Medicine is very good at measuring outcomes like survival rates, hospital stays, duration of surgery and blood counts, but it has much to learn when it comes to less tangible – but no less important – outcomes for patients.

At the University of Melbourne, breast cancer specialist and surgeon Professor Christobel Saunders AO is part of a growing global movement called person-centred, value-based healthcare.

"It really means looking from a patient's perspective at the outcomes that matter to patients, over the cost of delivering those outcomes, and trying to optimise those," says Professor Saunders, who is also a consultant surgeon at Peter MacCallum Cancer Centre.

Professor Saunders' journey with the movement began around ten years ago, with the realisation that many of the clinical measures by which success or value are judged are generic across an incredibly diverse patient population.

"The clinical measures might not apply to you and the values that you have, the goals that you have for your care, and the treatment preferences that you have," she says.

Listen

Listen to an interview with Professor Saunders AO and Professor Sarath Ranganathan about Research at the Melbourne Medical School.

go.unimelb.edu.au/4nqp

Putting personal values at the heart of healthcare

An international group of clinicians and researchers, including Professor Saunders, began developing alternative measures that could better capture each patient's hopes and needs, and the concept of person-centred, value-based healthcare was born.

Three core principles govern this new approach:

- First, treatment decisions must reflect a patient's own values, goals and preferences.
- Second, patients must be actively consulted in shared decision-making.
- Third, their progress must be regularly reviewed against their personal outcomes.

"Obviously, doctors have always tried to do that with their conversations and consultations," Professor Saunders says. "But what we've never been good at is systematically recording that."

Documenting personal, value-based measures in a stable, standardised way can be challenging. And presenting this documentation in a format that can be used quantitatively is no easy feat.

To address this, it is important to utilise **PROMs (Patient-Reported Outcome Measures) and PREMs (Patient-Reported Experience Measures)**. But also, to discuss and record patients' values, goals and preferences.

"PROMs can be very generic, which doesn't give you a lot of definition – just 'how are you feeling today' sort of thing," Professor Saunders says.

"Or they could be much more specific to a certain disease and the treatments and the side effects that are important to patients."

Measuring PROMs more diligently – especially outcomes that might be viewed as less clinically significant – can influence survival.

For example, studies have shown that measuring breathlessness in lung cancer patients more frequently can help pick up early signs of a cancer returning or worsening. Another example in prostate cancer, from the famed Martini Clinic in Germany, found that when surgeons expanded their focus from survival to other issues such as impotence and incontinence, they were able to drastically reduce the rates of those surgical side effects.

Patient experience matters as much as outcomes

PREMs are even more wide-ranging, covering everything from parking costs and hospital food to the challenge of navigating care across multiple healthcare facilities. But PREMs also matter for outcomes.

"Hospitals that do really well on patient-reported experience measures in fact do generally better for other outcomes," Professor Saunders says.

A 2018 international survey of more than 4000 cancer patients found four themes in what patients wanted: a swift and accurate diagnosis, joined-up multidisciplinary care, shared decision-making, and clear information about the financial costs of their care.

In response, the Global Centre of Excellence for Person-Centred Value-Based Healthcare developed **PerEmpo** – a platform that supports everyone involved in healthcare to 'focus on aligning care to people's individual values, goals and preferences.'

Despite acknowledgement within the industry that a focus on patient values is beneficial, medical practitioners' notoriously conservative stance on significant changes to practice means that scepticism remains.

> *"It's much easier to do a blood test or an x-ray to see how the patient's doing, rather than asking them," Professor Saunders says.*

There's also the challenge of standardising this data so it can be collated and interpreted – not only at the micro level of the individual patient, but also the meso level of a clinical unit such as a cancer clinic, and the macro level of an entire hospital.

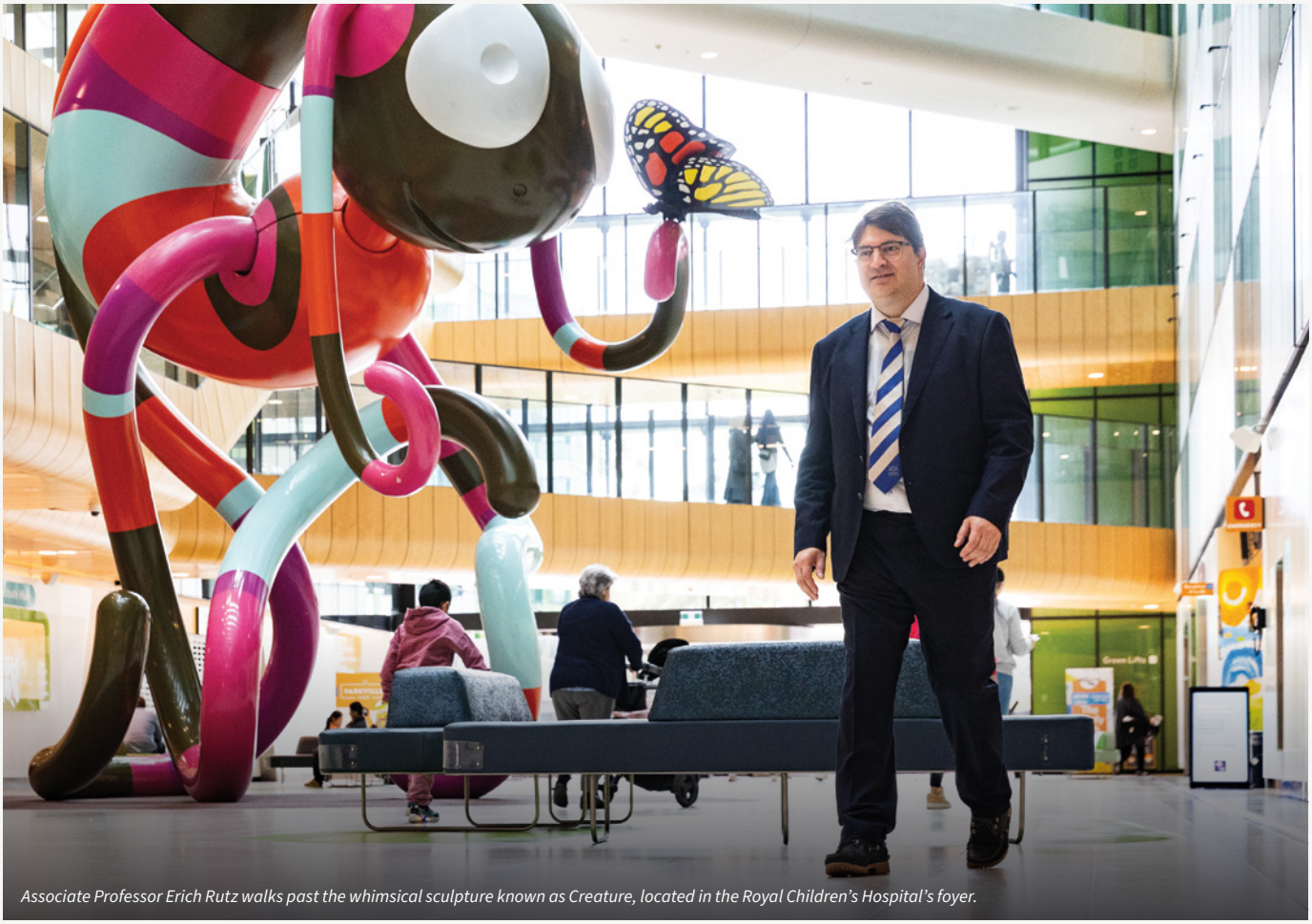
But Professor Saunders is optimistic that system transformation is happening, and she and her colleagues are at the coalface of that process. Alongside several research projects around person-centred, value-based healthcare, they have also established a Faculty impact area - an initiative focusing specifically on healthcare transformation.

"We're going to try and make the University of Melbourne a real beacon for research around this," she says.

The entrance to the Wellbeing Centre at the Peter MacCallum Cancer Centre

The surgeon helping children with cerebral palsy *walk again*

By Justine Costigan



Associate Professor Erich Rutz walks past the whimsical sculpture known as Creature, located in the Royal Children's Hospital's foyer.

New orthopaedic surgical techniques and interventions are giving children living with cerebral palsy the chance to stand, walk, jump and run – dependent on their pre-existing level of disability.

Strolling through the Royal Children's Hospital (RCH) in Melbourne with Associate Professor Erich Rutz is an eye-opening experience. The hospital foyer is busy, but the musculoskeletal issues associated with cerebral palsy are immediately obvious to Associate Professor Rutz, a Swiss trained paediatric orthopaedic surgeon with more than 20 years' experience.

Even for a layperson, the specific physical disabilities – twisted limbs and distorted posture – are easy to spot when you know what to look for.

Cerebral palsy affects a person's ability to control their muscles, leading to difficulties with movement, coordination, muscle tone and posture, as well as possible related communication, cognitive and perception issues. It's the most common cause of life-long physical disabilities in developed countries and typically around 1.5–3 per 1000 live births of the population in these countries are born with the disorder, or develop it in infancy.

The childhood stress of 'birthday syndrome'

For many people, a diagnosis of cerebral palsy means a lifetime of surgical interventions and a childhood marred by lengthy and recurring hospital and rehabilitation stays. It's been ironically named the 'birthday syndrome' thanks to its annual surgeries.

"One year it might be a foot problem, the next a knee, a year later a child's hips might need attention. They miss school. They have multiple periods of rehabilitation. It's not good," says Associate Professor Rutz.

The impact of these interventions on a child's physical and mental health, education and quality of life is immense. As any parent or carer who's spent time in a hospital with a sick child knows, it's stressful. Plus, there's the anguish of seeing your child missing ordinary childhood experiences, including the basic ability to walk, run and jump.

Forging better lives and reducing surgeries

Minimising the need for annual surgery and creating a better quality of life for children living with cerebral palsy has been the focus of Associate Professor Rutz's clinical and research work for more than two decades. In 2009, he moved to Australia from his home in Basel, Switzerland to work as a research fellow in the Hugh Williamson Gait Laboratory at the RCH for 12 months. His focus was analysing the outcomes of single-event multilevel surgery (SEMLS), a new approach to surgical interventions that aims to reduce the number of surgical events needed and the time spent in hospital and rehabilitation. A single – albeit very complex – operation that can last up to five hours, SEMLS addresses soft tissue contractures and bony deformities at the ankle, knee and hip in both legs. Associate Professor Rutz's work has helped establish SEMLS as the recommended procedure.

> *The results speak for themselves: "The child is, in general, able to stand and start walking the day after the surgery," he says.*

Since returning to Australia to take up the position of director of the Gait Laboratory in 2020, Associate Professor Rutz and his team now perform around 50 of these surgeries at the RCH each year. Even with a new patient almost every week, the joy he experiences when a patient sees an immediate improvement never fades.

"When they can walk, maybe for the first time, even a few steps, after a big procedure, that's very rewarding," he says.

Read

Read more about the transformative impact of The Lorenzo and Pamela Galli Medical Research Trust here.

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Associate Professor Rutz has also developed and introduced a new surgical technique to rectify foot drop, a disorder which makes it difficult to lift the front part of the foot, so it inevitably drags. His innovative technique, which involves shortening the tibialis anterior tendon (TATS), helps children with cerebral palsy lift and place their foot more smoothly, improving their ability to walk and even run.

Walking past the Gait Laboratory at the RCH, a window provides a glimpse of a young girl gripping parallel bars as she carefully moves her legs and feet. Only a few metres down the corridor are the offices where the research and medical teams that may determine her future quality of life are located.

Advancing a brighter future

In 2022, Associate Professor Rutz was appointed the inaugural Bob Dickens Chair for Paediatric Orthopaedic Surgery at the University of Melbourne, a position funded by the **Pamela Galli and Bob Dickens Paediatric Orthopaedic Research Trust**. Since then, he's been able to dedicate more of his time to researching new techniques and devices to improve outcomes for people living with cerebral palsy, including developing a prototype for an advanced 3D printed ankle brace that can be produced more quickly and at a cheaper cost. Even as the incidence of cerebral palsy in Australia has significantly fallen, Associate Professor Rutz's desire to keep innovating and learning never will.

> *"I'm very blessed to have the opportunity, freedom, time and financial support to research and help people," he says.*

Associate Professor Erich Rutz holds an Ankle-Foot Orthosis (AFO), a device used by many patients with cerebral palsy.

The gene whisperer:
Looking forward while honouring Indigenous genetics' past

By Justine Costigan

Alum Sidney Ruthven stands under a gum tree outside the Austin Hospital.

Sidney Ruthven (BSc 2020, MGenCouns 2023), a Yiman, Noonuccal woman from South-East Queensland and genetic counsellor at Austin Hospital, happily describes herself as a 'professional yarner'.

For Indigenous Australians, yarning is a '**deeply cultural way of learning, sharing and connecting**' – a free-flowing sharing of stories and experiences that helps build strong relationships.

Having deep, personal conversations with people about their genetic profile, families, lives and hopes for the future is exactly what the Master of Genetic Counselling from the University of Melbourne prepared Ms Ruthven to do. But it goes beyond her training – Ms Ruthven says she's "been yarning [her] whole life."

Western science is only just starting to catch on to the wealth of Indigenous genetics knowledge and practice, including the power of storytelling and yarning.

A rare and valuable profession

With postgraduate training and expertise in genetics, health communication and counselling, genetic counsellors combine research, clinical care, education and policy. Although the **first Australian genetics counsellor position was created in NSW in 1987**, demand for the role has grown slowly.

Today, there are only around 230 genetic counsellors working in the country. It's described by the University of Melbourne as **one of the rarest jobs in Australia**.

Ms Ruthven was the first in her family to attend university and Australia's first Indigenous genetic counsellor. When she moved from Queensland to Victoria at 17 to start a science degree at the University of Melbourne, she wasn't sure what career she wanted to pursue. "I kind of tried a little bit of everything – zoology, marine science, engineering. I did a little bit of pure mathematics at one time. I tried everything, but then ended up really loving genetics," she says.

> *"Growing up with our traditional stories... well I didn't know that word for genetics, but I've been talking about genetics my whole life, so it kind of just made sense in the end."*

A community lens on genetics

Interest in genetics in western science goes back to the ancient Greeks, but modern understanding of the field has its roots in the late 19th and 20th centuries. In Indigenous culture, says Ms Ruthven, knowledge of family lines stretches back thousands of years.

> *"...Through our stories, through our totem tracking and understanding how we connect to people and how we connect to place...that is our system of genetics."*

Making those connections and understanding genetics from a community perspective is key to working with Indigenous clients, says Ms Ruthven. It's here that those yarning skills are essential.

"The first thing we do when we step into a genetics appointment is talk through family, which is really important in a community-focused cultural setting…we have a lot of traditional stories about how we connect to the country, as well as how we connect to other people," she says.

"So, when I meet someone else who's Indigenous, I can family track with them as a way of referencing who and how we relate to each other and places where we share connections."

It's also about acknowledging the different ways people and communities make decisions, says Ms Ruthven.

"When someone says, 'We're going to help you make an autonomous decision', they're usually talking about one person. My understanding of autonomy is collective. So, if you put me in a room and say, 'Make this choice', it's not going to be informed, because [culturally] I need to consider those around me too."

Connection the key to holistic healthcare

Providing cultural safety is imperative given Indigenous peoples' **experiences of racism and discrimination in the healthcare system**, the broken family connections as a result of forced removals, and the dark history of eugenics in Australia, including at the University of Melbourne. That history is highlighted in **2024's Volume I** of D*hoombak Goobgoowana*, and in the exhibition *65,000 Years: A Short History of Australian Art* at the Potter Museum of Art, where the eugenics section comes with a warning for visitors. Rebuilding trust isn't easy.

"If we get cultural safety right for Indigenous Australia, we get it right for everyone, because we all have different cultural values and norms. And, you know, we have a beautifully multicultural country as a collective. That's where genetic counselling is a little bit different, because we do connect more on that personal level."

"It's a really beautiful space to hold and to share with someone or a family…a really unique space. I would like to see health [overall] become more like this. Genetics shouldn't be the exception."

Ms Ruthven believes this sense of community, and a focus on connection and place will inevitably play a greater role in health.

"I'd like to think in the future in genomic counselling – because that's going to be a completely different space – we'll sit down with a person and go, 'Okay, this is where you grew up. This is the genetic history of your community and how you relate to other people and how that influences how you've connected to that place. Here's a unique profile, not just for cancer, but all these other aspects of who [you are] and how your health could change over time'," she says.

"Thinking about all the genes and how they interact, and how it all interacts with the environment. That is the future."

Key milestones at the University of Melbourne and in Victoria for Truth and Treaty

28 May 2024

The University of Melbourne published Volume I of the book D*hoombak Goobgoowana: A History of Indigenous Australia and the University of Melbourne.* The book was written and edited by Redmond Barry Distinguished Professor Marcia Langton AO and historians Dr Ross L Jones and Dr James Waghorne and published by Melbourne University Publishing.

'Dhoombak Goobgoowana' means 'truth-telling' in the Woi Wurrung language of the Wurundjeri Woi Wurrung people, on whose unceded lands several University of Melbourne campuses are located. The book included chapters on the University of Melbourne's colonial and eugenics history and complicity in scientific racism.

2 July 2025

The Victorian Yoorook Justice Commission released Australia's first Indigenous-led truth telling report, which found the First Peoples of Victoria have endured crimes against humanity and genocide since the beginning of colonisation in Victoria – and are still being impacted by systemic injustice today as a result.

12 August 2025

Dhoombak Goobgoowana **Volume II published**.

9 September 2025

Australia's first treaty between a state government and Aboriginal and Torres Strait Islander people was introduced to the Victorian parliament.

Help

Sidney Ruthven was supported in her studies by a MDHS Indigenous Student Bursary, awarded to Indigenous students who are enrolled in an undergraduate or graduate coursework degree in the Faculty of Medicine, Dentistry and Health Sciences. Support students like Sidney here.

go.unimelb.edu.au/o6qp

Breaking epilepsy's *century-long* stalemate

By Justine Costigan

Professor Piero Perucca discusses brain scans with colleague Michael Ginevra

While treatment options have improved, seizure outcomes for people living with epilepsy have remained the same for close to a century. The new President of the Epilepsy Society of Australia is determined to change that.

Ask Professor Piero Perucca (PhD 2017) why he is fascinated by neurology and the conversation quickly moves from the medical to the existential.

"The brain is so incredibly complex," he says, leaning forward to elaborate.

"[Not only is it] involved in the control of different organs and systems, it's at the very core of why we exist, how we are as human beings, and the concept of consciousness."

Professor Perucca is in his office at the Melbourne Brain Centre, just next door to the Austin Hospital in Melbourne's northeast where he has been the head of the epilepsy program since 2021. On one side of the glass partition is the research hub, where some of Australia's best minds are devoted to improving the treatment and understanding of epilepsy.

Through the large window is a view of the hospital where Professor Perucca treats patients with some of the most difficult presentations of the disease. The two buildings are the heart of his dual passions: research and patient care, which are both directed toward improving outcomes for people living with epilepsy.

A complex disease, a stubborn problem

Epilepsy is a profoundly complex condition. There are many different types and different causes, with genetics increasingly recognised as playing an important role among cases without an obvious cause and – perhaps surprisingly – among those initially thought to be due to an acquired cause.

The disease affects about 0.6 per cent of the population. That's 160,000 Australians living with the disease, based on ABS population estimates for 2025. Globally, the World Health Organization estimates around 50 million people have epilepsy, making it one of the world's most common neurological disorders.

Although every case is different, people living with epilepsy often must make **significant changes to their life**. The disorder may prevent them from obtaining a driver's licence or participating in some sports, or require extra precautions or management when planning activities that other people take for granted. For many people, pregnancy and family planning are much more complex.

Epilepsy is not a single disease; it's a collection of neurological disorders that can cause abnormal electrical activity in the brain resulting in seizures. Despite major breakthroughs in the treatment and understanding of epilepsy throughout the 20th and 21st centuries, seizure outcomes for patients haven't changed significantly since the 1930s.

"We have more medications and different side effects profiles…but in effect, the chances of controlling seizures are pretty much the same today as they were before," says Professor Perucca.

The statistics may be depressing for some, but not for the Professor. He views them as a challenge.

> *"[It's] an incredible stimulus for us to do things better," he says.*

In his role at the Austin as Professor of Adult Epilepsy in the Department of Medicine, at the University of Melbourne – where he's supported by the National Health and Medical Research Council (NHMRC) Emerging Leadership Investigator Grant – and as the new President of the Epilepsy Society of Australia, he's determined to meet that challenge.

"We're at a cusp of a major change in the way we think about the treatment of epilepsy," he says.

Tackling the epilepsy iceberg

Professor Perucca believes breakthroughs in understanding the mechanisms of epilepsy through genetics could lead to new treatments to reverse the consequences of gene defects. He's also encouraged by a better understanding of epilepsy's co-morbidities, such as mental health and cognitive issues, and how they relate to – and potentially influence – symptoms of the disease.

"Studies show that a history of depression, anxiety or psychosis can predate [epilepsy]. So, it's not a simple reactive process, it's a biological relationship…Epilepsy is a bit like an iceberg. What you see are the seizures, but under the water are those issues," he explains.

Future breakthroughs will likely come from collaboration and "combining information from different sources and changing our approach to discovering new treatments… it's not a one –size-fits-all approach," he says.

While researchers all over the world are working towards better outcomes, Professor Perucca believes Australia has the potential to make an outsized contribution.

"We are in a very good position to be able to work collaboratively and as a community. Everyone here understands that if we work together, we can compete with the big research groups in the US or in Europe," he says.

Three heads are better than two

Collaboration will be essential if Australia is to successfully tackle the gaps outlined in the 2019 global report on epilepsy produced by the World Health Organization. A signatory to the **Intersectoral global action plan on epilepsy and other neurological disorders**, Australia has committed to meeting its 2031 goal. It's an ambitious agenda.

"It means putting together a plan and advocating with the government for better funding, for better care pathways, improvement in healthcare workforce… research opportunities, research funding, research infrastructure. It's a critical time, and an important one," states Professor Perucca.

The work has already begun, and he is quick to acknowledge the contribution of his predecessors and fellow experts. He knows the power of bringing people with various perspectives and expertise together.

Professor Perucca still remembers the words of his grandfather – a humble Italian whom he describes as very wise. "Remember, he used to say, two heads are better than one and three are better than two."

Discover

Turn clinical challenges into research breakthroughs. Apply for the David Bickart Clinical Research Fellowship.

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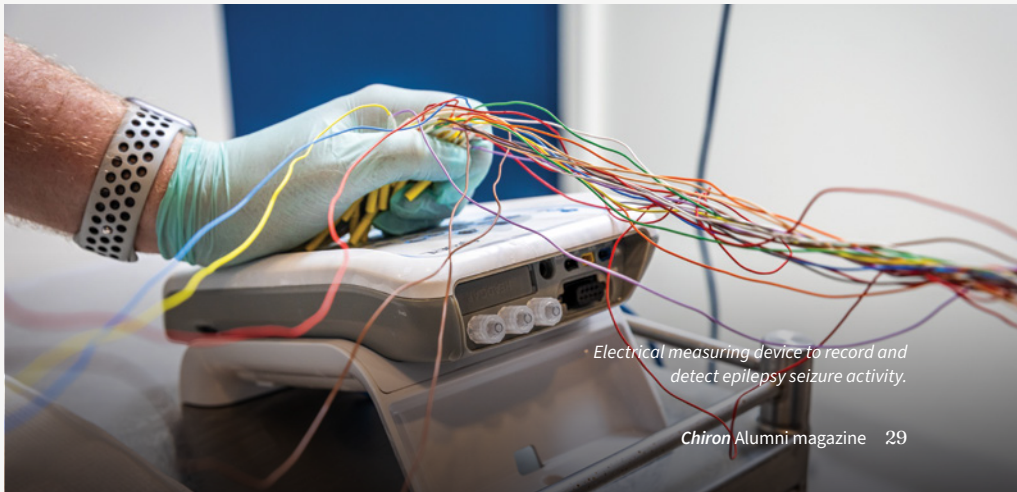


Electrical measuring device to record and detect epilepsy seizure activity.

From global to local:
Teaching teamwork at the Aikenhead Centre for Medical Discovery

By Florienne Loder

The Portland Towers are a great metaphor for teamwork. The former cement silos are connected by a bridge in Copenhagen.

It's 4.00pm in Melbourne and I'm on a Zoom call with Professor Tina Brock. She's adjusting to the time zone in Copenhagen, Denmark where she is attending FIP2025 – the International Pharmacy Federation conference. She apologises for her croaky 'conference voice', from intense networking conversations.

"The day I got here was a Sunday, so I just took a big walking tour to keep myself going," Professor Brock says. "And they had converted and connected these two former cement silos – they're like, 'okay, we can tear them down, but why don't we, you know, connect them? And use that connection as the feature?'"

The eloquent symbol made Professor Brock, Director of the Collaborative Practice Centre at the University of Melbourne, pause.

"I often talk about 'tearing down' or 'burning down' the silos. The problem with that is, it scares people into thinking they're losing something: 'I'm losing *my* silo', you know? Maybe the way the Danes have done this is actually a better way of bringing people into that journey [by] saying, 'let's connect our silos'."

Collaboration a strong theme in health education globally

Before Copenhagen, Professor Brock was in Barcelona for the **International Association for Health Professions Education (AMEE) conference**. "That was the first meeting where I had heard the word 'interprofessional' used as a noun," says Professor Brock.

"Yeah, I'm a professional. But I am also an *interprofessional*. I'm not just the best doctor; I'm not just the best dentist. My contributions are complementary to others and that collective is 'an interprofessional'. I thought that was cool," says Professor Brock.

Having recently attended several global health education sector conferences, Professor Brock says she has repeatedly encountered the theme of collaboration.

"If I had to draw a bubble diagram, it would be a giant 'word cloud' with 'collaboration, partnership, teamwork' coming out strong, which tells me we're going in the right direction," she says.

"What has been challenging, I think, is while that's pretty compelling evidence, that that is what we need to do, there is little detail about *how* to do it because it requires cultural change."

Professor Brock was excited that people are interested in the work that the **Collaborative Practice Centre** at the University of Melbourne is doing.

She's on a quest to teach medicine, dentistry and health sciences students across the faculty the skills to effectively work together in teams.

Her diverse team at the Collaborative Practice Centre has developed the 'Ways' curriculum to do just that and they are embedding and integrating it into all the school programs across the Faculty of Medicine, Dentistry and Health Sciences.

"What many programs worldwide do is carve out the interprofessional as a separate subject. Whereas what we're trying to do is to integrate interprofessional education into the courses themselves. The route that we have chosen is the harder, but potentially, better one. Because if you integrate the courses, then that is best practice."

Teaching teamwork: From primers to workshops and experiential learning at INTERPRACT@St Vincent's Hospital Melbourne

At the beginning of the academic year, the Collaborative Practice Centre launched its short modules, known as 'primers', that are included across the school programs. Now students will be brought together across disciplines to participate in face-to-face interactive workshops.

> *"The gold is in experiential learning," says Professor Brock. "All those primers and workshops prepare students for what they're going to do in workplaces."*

With the completion of the new Aikenhead Centre for Medical Discovery (ACMD) building, there is an opportunity for interprofessional experiential learning to be embedded and integrated in the workplace at the new St. Vincent's clinical school, through the 'INTERPRACT' project. The project is spearheaded by the St. Vincent's clinical school and a group of collaborative clinical educators from multiple disciplines based at the hospital. Five health professions are set to commence a new style of placement there in 2026.

Harnessing the power of microwaves and micro-interventions

The new clinical school at the ACMD has been designed with collaboration in mind through the building's architecture, which includes flexible and malleable teaching spaces.

> *"We're not tearing down silos – we're linking them together," explains Professor Brock.*

Operational levers such as joint onboarding and opportunistic timetabling to encourage interactions between students across across disciplines, as well as collective storage and shared social spaces that will be sign-posted to invite all students in, are also being used.

"Everybody needs a place to take a little break, eat their lunch, or check something on the internet. Our students need a place to heat food. So, lockers and the student tea rooms will be signposted to include everyone. These might sound like micro-interventions, but they are so powerful," explains Professor Brock.

Healthcare needs teams, not superheroes.

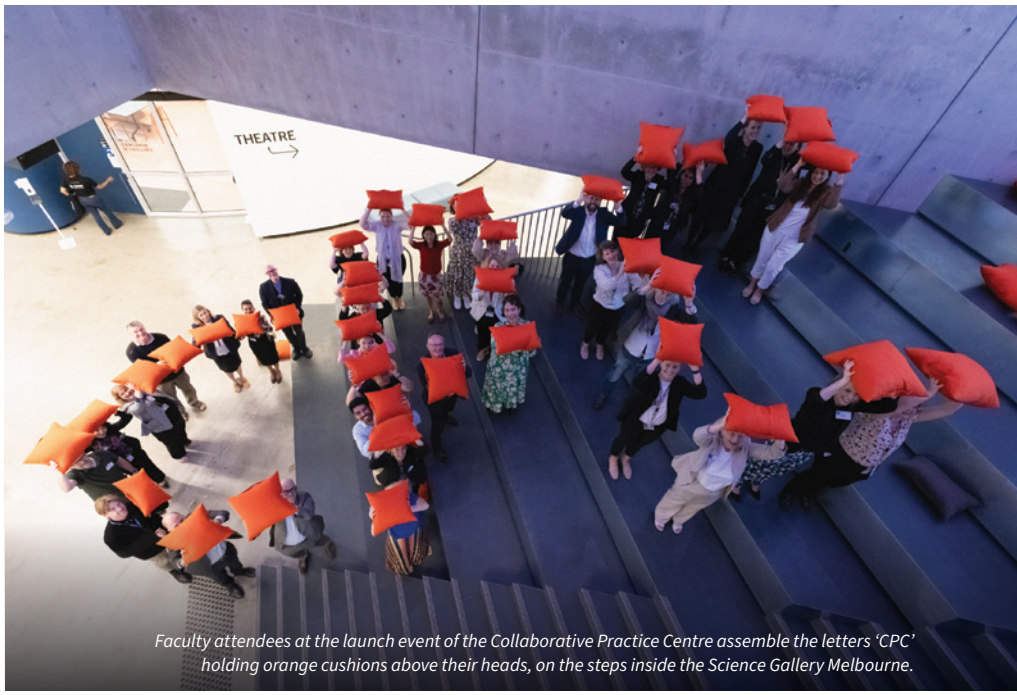
"If we're advancing health, some of the people that study with us will stay in Melbourne, some will go further afield, some will go into the rural and regional areas," says Professor Brock. "And so, we hope to have nurtured 'pollinators' who share this cultural movement of collaborative practice in healthcare – locally, nationally and globally."

"When I grew up, there was Superman, there was Batman, there was Spider-Man – these individual superheroes all had their special powers. But this generation has grown up in the Marvel universe. They're used to the Avengers, the X-Men, you know, these collaborations of superheroes, right? So, they're like, oh yeah, why would you just have Superman?"

Learn

Learn about the Aikenhead Centre for Medical Discovery.

www.acmd.org.au



Faculty attendees at the launch event of the Collaborative Practice Centre assemble the letters 'CPC' holding orange cushions above their heads, on the steps inside the Science Gallery Melbourne.

#WeMet@UniMelb:
University mentoring program sparks career-changing conversations

As told to Justine Costigan

Alum Associate Professor Lisa Cheshire and M.D and Master of Biomedical Engineering student Farhan Islam chat over a coffee in the Alan Gilbert Building.

Biomedicine student Farhan Islam wanted to be an engineer, not a doctor. But then he met Associate Professor Lisa Cheshire through the University's mentoring program and realised he could be both – an inventor who helps make people's lives better.

Lisa Cheshire

Associate Professor Lisa Cheshire (MBBS 1992) is the Academic Director, Clinical Education Strategy and Risk (CESAR) in the Faculty of Medicine, Dentistry and Health Sciences. A University of Melbourne alum, she was a regional general practitioner by training and worked in regional Victoria as a GP for more than 20 years. Associate Professor Cheshire has been part of the University of Melbourne's mentor program since 2019. She mentors students in the undergraduate biomedicine degree, which can lead to a wide range of careers across health sciences and biomedical science and research.

A different kind of student

I've been employed by the University since 2000 and was the Doctor of Medicine course director for six years. I've always been in teaching and learning and have informally and formally mentored for many years. Everything we do [as mentors] is about student advocacy.

The University of Melbourne academic mentoring program is well established and structured. As an academic, you have to express interest in being involved. Then, the faculty allocates you five or six students to mentor, hopefully across their whole undergraduate degree, if nothing goes astray!

And because I was invested in the medical degree, I usually get students who are interested in being doctors.

I began mentoring Farhan in 2020 when he was a first-year student. We were in the depths of the pandemic, so our first meeting was on Zoom. I could see straight away he was an incredibly positive student. He was a spark of light.

> *And it was just the most amazing breath of fresh air when Farhan said, "Actually, I don't want to be a doctor."*

It was wonderful. I was thinking, "Oh, this is exciting. Someone who wants to be a biomedical engineer!"

Embarking bravely on a different path

The same year I started mentoring Farhan, the School of Biomedical Engineering and the School of Medicine were collaborating to create the intercalated Doctor of Medicine/ Master of Biomedical Engineering program. It took an incredibly long time to work out how we could recognise some of the learning in the Doctor of Medicine and contribute that to the Master of Biomedical Engineering and vice versa. Back then I knew nothing about the biomedical engineering course…but I know everything about it now!

A lot of doctors want to understand the engineering and the systems around them, and a lot of engineers want to understand more about [the medical needs] they're developing products for. When the new Aikenhead Centre for Medical Discovery opens at St Vincent's Hospital later this year, engineers, doctors and students will be working very closely together in the same space. I think it's going to be a very popular pathway.

The first intake was planned for 2023, the same year Farhan was due to start a graduate degree. Naturally, I thought of him straight away – and the rest is history.

Farhan Islam

Farhan Islam (BBioMed 2022) is a third-year student in the Doctor of Medicine/ Master of Biomedical Engineering program at the University of Melbourne. He will complete his studies in 2027.

Combining passions and some good advice

Throughout high school, I was very invested in science, technology, engineering and maths. I'd do science experiments at home and learn all these cool maths concepts. I was the stereotypical nerd, but a proud one!

My family is from Shepparton, so I also have a rural background. Towards the end of high school, I discovered biomedical engineering, and I thought, 'Hey, this is the perfect amalgamation of all my passions.' I guess I had this sense – rather misguided – that there was less problem-solving and critical thinking involved in medicine. I thought it was just being a mindless robot, just memorising medical facts. Now I realise that couldn't be further from the truth.

My dad, who is a GP, would gently inform me that I was being somewhat naive. He would always tell me, 'You should really consider this career. I think it'd be very good for you. You're good with people.' So, I always kept my dad's advice in the back of my head.

A smooth transition to university

When you enter the Bachelor of Biomedicine degree for the first time, it's such a massive transition. It's a complete paradigm shift. I wasn't expecting to have a mentor, but access to someone who had a wealth of experience in dealing with students and all of our qualms and questions was a blessing.

Talking with Associate Professor Cheshire always felt very natural, it was always an easy, free-flowing conversation. It's very nice to know that the faculty are concerned and want to make sure that everyone's doing okay. It definitely emphasises a sense of togetherness and a collective desire to see this through and band together.

Finding a calling

At the end of my undergraduate degree, I was lucky to gain admission to the Doctor of Medicine, but I also found out that because I'd majored in Bioengineering Systems I was also eligible for the new intercalated pathway. It was just very fortunate that I had Associate Professor Cheshire as my mentor, because it planted the seed nice and early. It gave my subconscious some time to process that and consider, 'Is this a viable option?'

What drew me to this course is that I can combine these passions and see both fields playing out in the same setting. For example, I was in the cardiac lab at St Vincent's today and I saw a pacemaker being implanted transcutaneously. They put a catheter in the femoral artery and then a pacemaker in the septum between the two ventricles of the heart. It was just a perfect example of seeing engineering in a clinical setting. It was majestic.

I'm very grateful to Associate Professor Cheshire. Her advice was influential. I want to thank her for her guidance because now I just can't see myself doing anything else. It's fantastic.

Help

Our students are deciding their future career in medicine now. Volunteer to mentor a current student in 2026.

go.unimelb.edu.au/956j

Alum Associate Professor Lisa Cheshire and M.D. and Master of Biomedical Engineering student Farhan Islam chat over a coffee in the Gilbert Cafe.

Creating a new home for the treasures of the Medical History Museum and their stories

Dr Jacqueline Healy
Director, Museums, Faculty of Medicine, Dentistry and Health Sciences

L-R Professor Mike McGuckin, Professor Mark Cook AO, Elder, Annette Xiberras, Dr Jacqueline Healy, Professor Sandra Eades AO at the re-opening of the Medical History Museum

After 58 years in the Brownless Biomedical Library, the Medical History Museum has relocated to a new space on Bouverie Street. The newly refurbished space allows visitors and students to directly engage with the faculty's extensive collection of objects marking milestones of innovation in medical history.

Here, Director of Museums, Dr Jacqueline Healy reflects on some of the most striking items gifted by distinguished alumni to the museum. Dr Healy reveals a wooden model teaching tool, surreal anatomical drawings, and a silver and bronze microscope. What stories do they tell, and what do they reveal about the past and future of medicine?

Visit

The Medical History Museum is open Monday to Friday 10.00am to 5.00pm.
233 Bouverie St, Carlton.

Visit the inaugural exhibition – *Cultural Medicine: The Art of Indigenous Healing* – from 29.9.2025 to 10.7.2026.

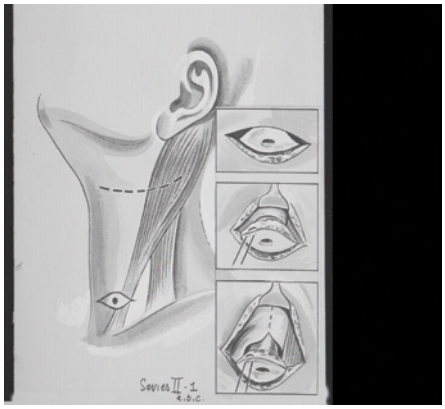
The wooden model that helped break the glass ceiling

At first glance it appears to be a beautifully carved wooden model. However, this object holds a purpose well beyond aesthetics. Resting in a papoose board, the articulated wooden mannequin was designed according to the specifications of Dame Jean Macnamara to illustrate how splinting could prevent deformity in paralysed limbs.

Dame Jean Mcnamara (1899–1968) was a truly pioneering woman. Along with Dame Kate Campbell (1899–1986), she was one of the first female residents at the Royal Children's Hospital. It took the support of Sir William Upjohn (1888–1979) to get both women appointed after recognising their talent when he worked with them at the Melbourne Hospital.

Dame Macnamara went on to revolutionise the care of children with poliomyelitis, developing an efficient and comprehensive system of care. In collaboration with virologist Sir Macfarlane Burnet, she discovered there was more than one strain of polio virus – an early step towards the development of a vaccine. Dame Campbell specialised in paediatrics, pioneering the field of neonatal medicine.

As an alum of the University of Melbourne, Dame Macnamara chose to give the wooden model she developed to the University to exemplify an aspect of her research for future generations.



Connected by brilliance in surgery and art

Reminiscent of a Picasso or other surrealist art, this anatomical drawing by Eric Thake (1904–1982) reflects the overlap of medical precision and artistic talent. It came to the museum through surgeon and alum Peter Jones (1922–1995), who commissioned his friend Thake to illustrate surgical techniques.

The remarkable legacy of these illustrations is that they depict a highly invasive technique for treating branchial cleft anomalies requiring extraordinary precision. As Professor John Hutson commented, "They are not only beautifully drawn but also demonstrate a style of surgery very close to formal dissection. This is in stark contrast to current principles of surgery, where we strive to be minimally invasive, avoiding formal dissections unless absolutely necessary."

Jones graduated from the University of Melbourne with a MBBS in 1945 and went on to become a highly accomplished surgeon. He was the first person to obtain the Australian fellowship in paediatric surgery in 1960 and later edited the world's first textbook on this new subspecialty as part of the Royal Children's Hospital's centenary in 1970.

The microscope that built a faculty

This gleaming Powell & Lealand compound monocular and binocular microscope, made of glass and brass, belonged to Professor George Britton Halford (1824–1910), the first Dean of the Faculty of Medicine. The University of Melbourne purchased the microscope in 1864 from the Reverend John Bleasdale (1822–1884), a prominent Catholic clergyman and an active member of the Microscopic Society of Australia. It was donated back to the University by his granddaughter, Mrs Dorothy C Banks, providing a physical link to Professor Halford's work at the University and the technology of the time.

Professor Halford was appointed the first Chair of Anatomy, Physiology and Pathology at the University of Melbourne in 1862. The medical course commenced with just three students, but by the time the school became a faculty in 1876 there were over sixty. Professor Halford was a progressive advocate for educational access and, as early as 1871, recommended admitting women who passed examinations – a view opposed at the time by Vice-Chancellor A.C. Brownless (1817–1897).

The Bastas Academy for Health Leadership launched and scholarships available

The first-ever student cohort of the newly established Bastas Academy of Health Leadership for the Activating Your Health Leadership short course.

In February 2025, the University of Melbourne **launched** the Bastas Academy for Health Leadership to address critical leadership and workforce challenges facing the global health sector.

The Academy is an innovative cross-disciplinary partnership between the university's Faculty of Medicine, Dentistry and Health Sciences and Melbourne Business School. It provides world-class leadership development programs to upskill and empower health professionals to drive innovation, collaboration and excellence across the industry.

The Academy currently offers four intensive short courses:

1. Activating your Leadership in Health
2. Health Leadership for Impact
3. Leading through Complexity in Health
4. Leading Innovation and Transformation

These courses, custom-designed by world-leading health and leadership experts, are tailored for current and emerging leaders across health disciplines and clinical, allied health, aged care, government, industry and research roles.

Scholarships covering up to 75 per cent of course fees are available for eligible applicants, who must be Australian citizens or permanent residents.

Register

Register your interest for 2026 courses:
forms.office.com/r/v8DULfe7cZ
Find out more: **mbs.edu/bahl**

School and alumni awards

We congratulate the following alumni and staff for achieving the following awards:

Dr Asha Bonney (PhD 2025)

Award: Health Services Researcher Award at the 2024-25 Premier's Awards for Health and Medical Research

In recognition of: leading research at the University and the Royal Melbourne Hospital to provide education and develop referral pathways for patients undergoing lung cancer screening.

go.unimelb.edu.au/s6vp

Professor David Forbes (PhD 2005) and Associate Professor Lisa Dell

Award: the National Health and Medical Research Council's (NHMRC) '10 of the Best' 2025

In recognition of: conducting Australia's largest treatment trial of PTSD in military personnel and veterans, which found that patients with even only brief periods of time available could still benefit from intensive PTSD treatment.

go.unimelb.edu.au/6xqp

Dr Elizabeth Paratz (BMedSc 2008, MBBS 2010, PhD 2023)

Award: the 2024 Ralph Reader Prize, awarded by the Cardiac Society of Australia and New Zealand

In recognition of: research into sudden cardiac death in young and middle-aged people as part of her PhD work.

go.unimelb.edu.au/8xqp

Professor Elif Ekinci (MBBS 2000, PhD 2011, SpecCertClinLead 2021)

Award: People's Choice Award and Designing Services for People Award at the Institute of Public Administration Australia (IPAA) Victoria 2025 Leadership Awards

In recognition of: leading a team in the creation of a specialised virtual emergency department service catering for people living with diabetes.

go.unimelb.edu.au/hnn2

Dr Rachel Joyce (BBiomed (Hons) 2016, PhD 2023)

Award: Aboriginal Researcher Award at the 2024-25 Premier's Awards for Health and Medical Research

In recognition of: conducting research that discovered a small group of early cancer-forming cells found in women with a hereditary gene mutation that increases their risk of developing breast cancer, and identified an existing cancer drug that can target these cells to delay tumour growth.

go.unimelb.edu.au/s6vp

Professor Sant-Rayn Pasricha (MBBS 2001, MPH 2007, PhD 2012) and Professor Beverley Ann-Biggs (MBBS 1979, PhD 1990)

Award: the National Health and Medical Research Council's (NHMRC) '10 of the Best' 2025

In recognition of: a randomised controlled trial into the impact of universal iron interventions in young children in rural Bangladesh. It found that the treatment for anaemia and iron deficiency at the time showed no effects compared with the placebo.

go.unimelb.edu.au/6xqp

Vale

Vale Grantley Alexander Ward

1995 - 2025

On behalf of the Melbourne Medical School, we are deeply saddened by the passing of Dr Grantley Alexander Ward.

Grantley was a remarkable student during his time at the University of Melbourne where he undertook a Bachelor in Biomedicine before graduating from the Austin Clinical School in 2019. Grantley also spent a year of his training in our clinical school at Wangaratta.

Grantley was thoughtful, hardworking, and deeply committed to the values of good medicine. He stood out not only for his academic ability, but for his humility, quiet strength, and compassion for others.

As a young doctor, he carried these same qualities into his clinical practice, earning the respect and affection of colleagues and patients alike. Though his life and career were tragically cut short, his impact on our community will not be forgotten.

We remember Grantley with great admiration and deep sorrow. Our heartfelt condolences go to his family, friends, and all who grieve this immense loss. He will be missed, and he will be remembered.

Vale Professor Rinaldo Bellomo AO

It is with deep sorrow that the Department of Critical Care announces the passing of Professor Rinaldo Bellomo AO.

Rinaldo was a Professor of Intensive Care Medicine in the Department of Critical Care at the University of Melbourne, Honorary Fellow at the Florey, Professor in the Faculty of Medicine at Monash University, Honorary Professorial Fellow in the Faculty of Medicine at The University of NSW, and Honorary Professorial Fellow at The George Institute for Global Health in Sydney.

Over the last thirty-five years, Rinaldo became one of the world's leading intensive care medicine researchers and thinkers. At the time of his death, he had the remarkable SCOPUS statistics of 1,845 publications, 150,000 citations, and a h-index of 165. Much of this was with extensive national and international collaborations notably through the Australia and New Zealand Intensive Care Society Clinical Trials Group, where he was the founding Chair.

Rinaldo was passionate about supporting early and mid-career researchers both within and beyond Australia. He was a supervisor, mentor, and sponsor to his many Graduate Researchers and innumerable emerging researchers in both clinical and discovery science.

Rinaldo was awarded an Officer of the Order of Australia in 2018 for distinguished service to intensive care medicine as a biomedical scientist and researcher, through infrastructure and systems development to manage the critically ill, and as an author.

As a person, Rinaldo had endless energy and enthusiasm for new ideas and determination to implement sound evidence. He had a great sense of humour and all who knew him would recall references to Machiavelli or Dante, which were part of his contribution to his final meeting of the Department of Critical Care Executive. He was an opinion leader who many would turn to, including hospital leaders. Often "What does Rinaldo think?" was heard for a critical decision requiring sound judgement.

Rinaldo was a highly regarded clinician at the Austin Hospital, where he worked for many years until his death. More recently, he also worked at The Royal Melbourne Hospital. His work has and will continue to improve the outcomes for millions of critically ill patients worldwide.

The Department of Critical Care extends their condolences to Rinaldo's family, particularly his wife Debbie and daughter Hilary, and his friends and colleagues at this difficult time.

Professor Rinaldo Bellomo's Memorial

Ary Serpa Neto, Paul Young, In memory of Professor Rinaldo Bellomo: A giant of intensive care medicine, Critical Care and Resuscitation, Volume 27, Issue 2, 2025, doi.org/10.1016/j.ccrj.2025.100110.

By Ary Serpa Neto and Paul Young

Vale Emeritus Professor Glenn Bowes AO

(2 November 1948 – 16 January 2025): A Pioneering Leader and Mentor

The Faculty and Melbourne Medical School pays tribute to Professor Glenn Bowes AO, Emeritus Professor of Paediatrics, whose pioneering work, generosity of spirit, visionary leadership and profound commitment to improving lives left an indelible mark on the University, his friends and colleagues and especially on his patients and their families.

Glenn graduated with an MBBS and PhD from Monash University and completed postdoctoral training in respiratory medicine at the University of Toronto. He made pioneering contributions at the Alfred Hospital, establishing Australia's first adult cystic fibrosis program. He also established the Lung Transplant program. Both initiatives were groundbreaking at the time. Glenn was then recruited to the Royal Children's Hospital Melbourne where he founded the nation's first academic program in youth health as the inaugural Professor of Adolescent Health.

Over 16 years at the Royal Children's Hospital, Glenn held pivotal roles including Chief Medical Officer, Executive Director, University of Melbourne Stevenson Chair of Paediatrics and Head of the Department of Paediatrics.

His innovative leadership transformed adolescent health nationally. He was also instrumental in the creation of the Melbourne Children's Campus. Within the Faculty of Medicine, Dentistry and Health Sciences, Glenn served as Associate Dean for Engagement, and then Deputy Dean, and fittingly, upon retiring in 2019, the University appointed Glenn as an Emeritus Professor.

At Melbourne, Glenn's impact extended far beyond his formal roles as a mentor across the University and its partners. His leadership was guided by an unwavering commitment to moral clarity – asking "what is the right thing to do?" His integrity was an ever-present guidepost.

Glenn was one of the Faculty's most significant allies for Indigenous development this century. He worked hand-in-glove with Aboriginal and Torres Strait Islander leaders over decades, leveraging his institutional knowledge and influence to drive meaningful partnership and change. Glenn deeply understood his responsibility as an ally; taking Indigenous advocacy as an obligation and seeing the transformative potential of genuine collaboration.

This moral clarity framed all considerations and was grounded in a recognition of the University's colonial history and need for reparative measures. Glenn was a seminal mentor to the Faculty's Aboriginal staff and leaders, including as Chair of the Poche Centre's Advisory Board. His legacy is that of an ally who advanced Indigenous development through true partnership and listening.

Glenn's commitment to supporting and mentoring others extended to every aspect of his career. As Head of Respiratory Medicine at the Alfred, he would always work to ensure students were included in his staff catchups, such was his determination to help others grow. He gathered and nurtured others, encouraging them to find places far beyond their imagined boundaries and to shine anywhere they could and should, making a positive difference in this world. He was trusting, empowered others and had the ability to inspire the best in people.

In his role as Deputy Dean, Glenn provided strategic leadership across advancement, engagement, alumni, and international activities. Chairing key committees, he stewarded the Faculty's charitable trusts and global strategy. Under Glenn's leadership, the Faculty raised over $300 million through philanthropy – a testament to his ability to connect donors with researchers and teams driving critical advancements in health and wellbeing. Glenn played a pivotal role in facilitating the extraordinary gifts from Pamela Galli AO to establish collaborative research chairs and programs across the Melbourne Biomedical Precinct exemplifying his impact in this area. This work was made possible by his strategic guidance and steadfast commitment to multidisciplinary approaches that extended far beyond his medical background.

Beyond his medical career, Glenn generously served the community through board roles with organisations including Mentone Grammar, Lord Somers Camp, Very Special Kids, Anglicare and youth services.

An innovative leader, generous mentor and deeply caring human being, Glenn's vision, integrity and commitment to empowering youth will leave a legacy. The University celebrates his incredible spirit and impact on generations of young lives.

We extend our deepest condolences to Glenn's wife and faculty member, Professor Jo Douglass, his children William, Sarah, Charlie, Matthew and Julia, his wider family and many friends and colleagues who will miss him greatly.

THE UNIVERSITY OF MELBOURNE

Keep in touch

As a member of our alumni community you can access an extensive range of events and benefits, both locally and internationally.

Get in touch with us at:

MDHS-alumni@unimelb.edu.au
+61 3 9035 7869 to update your details,
or visit: alumni.unimelb.edu.au/alumni

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