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.

Chiron is published by the Melbourne Medical School. Contributions and correspondence from alumni, staff and students are most welcome and should be sent to:

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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.


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The University of Melbourne acknowledges the First Peoples of Australia, the Aboriginal and Torres Strait Islander peoples. We acknowledge the traditional custodians of the lands on which each campus of the University is located and pay our respects to the Indigenous Elders, past, present and emerging.
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What a year we are having. First came the devastating bushfires that consumed more than twice the land burnt months earlier in the Amazon. Then a new threat arrived by stealth, just as the World Health Organisation warned it would: “Disease X could be a completely new pathogen, something we have never seen before, or it could be a pathogen that we already know but is presenting itself in a modified or unexpected way”.

Disease X, of course, turned out to be the novel coronavirus, SARS-CoV-2. At the time of writing, Australia had been extraordinarily successful in flattening the curve. Nonetheless, COVID-19 is here to stay and has transformed the way we live and work.

In the early days, we witnessed the brutality of this virus unleashed on our colleagues, families and friends overseas, and braced ourselves, on a personal and professional level, for the virus to hit here. Many clinicians and researchers are in advisory roles at the highest levels of government, setting up fever clinics, establishing clinical guidelines and protocols, creating apps, sharing expertise and developing devices to help the world. Initially seen as primarily a respiratory disease, it is clear that virtually no specialty is untouched by this virus, given its devastating impact on multiple systems.

This is also a breathtakingly turbulent time to be a medical student. Our students have taken in their stride the transition to online learning and disruption to their clinical placements, and have done an outstanding job converting the annual Medical Students Conference into an entirely online event. They have also embraced opportunities to contribute, with all students signing up to the Students’ Assistance in Supporting Healthcare (SASH) program to assist in the pandemic at our major hospitals.

Meanwhile, the School is continuing to grow in exciting directions. Our newest department – our tenth – is the Baker Department of Cardiometabolic Health, a partnership with the Baker Heart and Diabetes Institute, headed in the first instance by Baker Director and CEO Professor Tom Marwick.

Work continues on the new Doctor of Medicine (MD). Our strategy to move core content online has been vindicated by the lockdown. Moreover, the pandemic has really put the spotlight on clinician scientists – an endangered species nonetheless responsible for a good many Nobel prizes – and this is a focus in the new MD. Under the capable leadership of Associate Professor Margie Danchin (MBBS 1995, PhD 2006), our new Director of Clinician Scientist Pathways, we hope to see more students opting for this challenging, rewarding career.

Our annual Open Day has been moved online, and will include student experience webinars to give prospective students a taste of what a Melbourne medical education is like.

This edition of Chiron celebrates just some of the world-class work being done on the COVID-19 front line within the School and beyond. It features interviews with Professor Patrick McGorry (MD 2003), Associate Professor Steven Tong (MBBS (Hons) 1990) and Dr Stephen Warrillow (MBBS 1996, PhD 2020); just a few of our alumni doing all that they can to combat this virus. You can also read about the work of our researchers who, in collaboration with Western Health, have developed a personal ventilation hood for hospital beds, and over at Austin Health and the Royal Melbourne Hospital, 3D printed medical equipment.

It’s not only the year of the frontline health worker, but also the year of the epidemiologist, the vaccination researcher, the mathematician and the mental health specialist. There has also been huge grief and personal cost worldwide. I acknowledge the dedication and hard work of those in our extended community in rising to its challenges.

Professor John Prins
Head, Melbourne Medical School
WELCOME FROM THE DEAN

It goes without saying that a lot has happened since this time last year. First, we experienced the devastating bushfire season and what felt like immediately after, COVID-19 hit our shores, something we knew was coming, but were hoping wouldn’t.

In some ways it feels like everything has changed. ‘Social distancing’, ‘self-quarantining’ and ‘the new normal’ were just concepts on our periphery, now it seems they’re everyday life.

In other ways though, this chaotic and challenging time has highlighted some of the things that we in the Faculty of Medicine, Dentistry and Health Sciences know all too well. In particular, how essential our work and research are to all aspects of health and society, and of course how central frontline health workers are in times of crisis. Many of these stories you will be able to read about in this edition of Chiron.

The outstanding leadership that our alums have shown in the face of this global crisis has been nothing short of exceptional. Australians and Victorians have turned to the advice of Professor Brendan Murphy (MBBS 1978, PhD 1990) our country’s Chief Medical Officer and Professor Brett Sutton (MBBS 1993), Victoria’s Chief Health Officer, both of whom have regularly graced our TV screens. While those in the Northern Territory, which has fared particularly well, turned to one of our own in Dr Hugh Heggie (BSc 1980, MBBS 1980). We are also incredibly proud of Associate Professor Ruth Vine (MBBS 1980, GDipPsychMed 1990, GDipArts(Crim) 1994) who recently accepted the position of Deputy Chief Medical Officer for Mental Health at the Commonwealth Department of Health. Her role will be pivotal as we prepare to address Australia’s mental health response to the pandemic. Our students’ eagerness to help in times of crisis made us exceptionally proud.

Our Faculty, alongside our colleagues from the Group of Eight (Go8) also led the national COVID-19 Roadmap to Recovery to help guide Australia out of the pandemic crisis. The report, which was presented to the Federal Government, is a fantastic example of interdisciplinary and cross-university collaboration, something that we are very proud of.

This year, notwithstanding the dual shocks of the bushfires and the pandemic, the University of Melbourne released its strategy for the next decade. Advancing Melbourne 2030 outlines our direction and aspirations for the next decade.

In summary, I commend the leadership of the Melbourne Medical School, Professor John Prins and his team on what has been an exceptional response to a turbulent 12 months. We look forward to a smoother year ahead and hope to see you all again soon.

Professor Shitij Kapur
Dean, Faculty of Medicine, Dentistry and Health Sciences
Assistant Vice-Chancellor (Health)
# Excellence

**#1** Top ranked university in Australia

**#1** Top ranked university in the Asia-Pacific for clinical, pre-clinical and health

**#9** Melbourne Medical School is ranked ninth in the world for clinical, pre-clinical and health

**#14** Globally for clinical, pre-clinical and health

# Medical Alumni

**19,846** total living alumni

**13,737** alumni in Australia

**1,106** MMS graduates in 2019

*Gender*

- Male - 10,831
- Female - 8,789
- Unspecified - 226

# Medical Research Themes

- Ageing
- Cancer
- Cardiometabolic
- Child health
- Integrated critical care
- Musculoskeletal
- Neuroscience and psychiatry
- Women’s health

# 10 Clinical Schools

- Austin Clinical School
- Royal Melbourne Clinical School
- St Vincent’s Clinical School
- Epworth Clinical School
- Western Clinical School
- Northern Clinical School
- Wangaratta Clinical School
- Shepparton Clinical School
- Bendigo Clinical School
- Ballarat Clinical School

# 47 Key Partnerships

The school partners with a broad range of institutions in working towards our mission. The relationships with our partners are central to our success in research, learning and teaching, and engagement.
MELBOURNE MEDICAL SCHOOL ALUM APPOINTED AUSTRALIA’S FIRST DEPUTY CHIEF MEDICAL OFFICER FOR MENTAL HEALTH

Leading Australian psychiatrist Associate Professor Ruth Vine (MBBS 1980, GDipPsychMed 1990, GDipArts(Crim) 1994) was recently appointed Australia’s first Deputy Chief Medical Officer for Mental Health at the Commonwealth Department of Health.

Associate Professor Vine has worked as a consultant psychiatrist in clinical and government roles since 1991, including senior roles in Forensic Mental Health for almost a decade. She was employed in the Department of Health and Human Services for 13 years in roles including Deputy Chief Psychiatrist, Chief Psychiatrist and Director of Mental Health.

In her new appointment, Associate Professor Vine will provide her extensive expertise to Australia’s mental health response to the COVID-19 pandemic recovery. Associate Professor Vine will work with states and territories on the National Mental Health and Wellbeing Pandemic Response Plan to ensure that those suffering mental ill health can get help when and where they need it.

WELCOME TO THE BAKER DEPARTMENT OF CARDIOMETABOLIC HEALTH

The Baker Department of Cardiometabolic Health is an exciting new collaboration between the Melbourne Medical School and the Baker Heart and Diabetes Institute.

The Department will focus on research and innovation to improve the lives of people with, or at risk of, cardiovascular disease (CVD), obesity and diabetes.

This initiative will leverage both organisations’ strengths in cardiometabolic capabilities and collaboration, provide national leadership in cardiometabolic medicine and attract greater international recognition to the field.

Joining forces will offer significant benefits for performance, scale, breadth and competitiveness and will draw heavily on expertise in engineering, mathematics, biostatistics, bioinformatics, psychology, epidemiology and other disciplines within the University.

Learn more about the partnership: medicine.unimelb.edu.au/school-structure/baker-department-of-cardiometabolic-health

NEW DEPARTMENT HEADS

This year we have welcomed three new outstanding Heads of Department in Professor Chris Davey (MP 2006, PhD 2010), Head of Department of Psychiatry, Professor Peter Choong (MBBS 1984, MD 1994), Head of Department of Surgery and Professor Patricia Desmond (BSc (Hons) 1978, MSc 1981, MBBS 1984, MD 2005), Head of Department of Medicine and Radiology.

All bring significant expertise to their various roles. Professor Davey joins us from Orygen and the Centre for Youth Mental Health, where he has been a psychiatrist and researcher for the past 15 years. Professor Choong is the Chair of the Bone and Soft Tissue Tumour Service at the Peter MacCallum Cancer Centre and has recently stepped down as Director of Orthopaedics at St. Vincent’s Hospital Melbourne. He has almost 30 years’ experience in research, teaching and medical leadership. Professor Desmond is an accomplished consultant radiologist at Royal Melbourne Hospital.

We look forward to their ongoing leadership over the coming years.
#IAMYOURDOCTOR INTERNATIONAL WOMEN’S DAY BREAKFAST FOR FIRST-YEAR MEDICAL STUDENTS

In Australia and elsewhere, more than half of commencing medical students are women. Generational change has both ushered in more opportunities for women to excel, and highlighted the work still needed to combat persistent stereotypes, unconscious bias, under-representation in leadership roles, and the gender pay gap.

On Tuesday 3 March, Melbourne Medical School held a speed networking breakfast event, #IAmYourDoctor, for all first-year medical students. Five Melbourne Medical School clinician scientists and alumni spoke of the challenges they have faced and the resources they have drawn on to meet them, and what it means to strive for gender equity in medicine.

The message was clear from host Associate Professor Margie Danchin (MBBS 1995, PhD 2006): “Health equity is not possible without gender equity”. She highlighted that the path can sometimes seem long with no end in sight but encouraged students to explore the opportunities that come their way.

The event also included outstanding speakers and role models Associate Professor Elif Ekinci (MBBS 2000, PhD 2011), GP Dr Deepthi Iyer (PhD 2020) and AMA Junior Doctor of the Year Dr Nardine Elzahaby (M.Psych 2018).

Visit the MMS website to keep up to date with news and events: medicine.unimelb.edu.au

EXPERT UPDATES: RURAL HEALTH COVID-19 WEBINAR SERIES

The Department of Rural Health has brought together education, mental health and medical experts to discuss the profound impact the COVID-19 pandemic has had in rural and regional settings. Residents of Australia’s remote regions had only just survived the devastating bushfires in early 2020 before COVID-19 hit. They now have a challenging recovery, dealing with the overwhelming impact of both crises. The COVID-19 rural health webinar series provides an opportunity for health professionals in a regional setting to hear from leading university academics on a wide range of topics.

The webinar series will continue monthly throughout 2020. Updates on upcoming events and recordings can be viewed at medicine.unimelb.edu.au/school-structure/rural-health

COVID-19 IN RURAL AUSTRALIA
Presented by Professor Shitij Kapur
Dean, Faculty of Medicine, Dentistry and Health Sciences and Assistant Vice-Chancellor (Health)

WHAT WE CAN LEARN FROM EDUCATING DURING COVID-19?
Presented by Professor John Hattie
Laureate Professor of Education,
Melbourne Graduate School of Education

MENTAL HEALTH AND DEALING WITH COVID-19 IN THE RURAL SETTING
Presented by Professor Lisa Phillips, Professor of Psychology, Melbourne School of Psychological Sciences
DR DAN WILSON – VICTORIAN JUNIOR DOCTOR OF THE YEAR

Congratulations to Dr Dan Wilson (MD 2017), who was awarded the Victorian Junior Doctor of the Year 2019 by the Postgraduate Medical Council of Victoria (PMCV) and Confederation of Postgraduate Medical Education Councils (CPMEC).

Dr Wilson is a Board member of the Rural Doctor’s Association of Victoria (RDAV), Chair of AMA Victoria GP Registrar Subdivision, and Non-Executive Director of Future Connect.

Having grown up in rural Kempsey, near Port Macquarie on the NSW coast, Dr Wilson always hoped to return to regional Australia after completing his studies in the city. He is deeply passionate about improving the delivery of healthcare for rural Australians and is currently working at the Ararat Hospital in Victoria, where he became the first and only fulltime doctor in January 2019.

Dr Wilson has a keen interest in chronic disease, medical education, women’s health and LGBTQ+ sexual health.

Dr Wilson says he was floored and extremely proud to be announced as Victoria’s Junior Doctor of the Year 2019, but what drew him most to medicine was the human interactions. “You get people at their most vulnerable. It’s an experience I will always treasure.”

“It’s not universally true, but for people in the bush, where most people know each other, talking about sensitive topics like sexuality or gender identity can be a bit more confronting because it’s not a common topic you’d share beyond your own bedroom. And there’s so much stigma around being hepatitis or HIV-positive.”

MOBILE LEARNING UNIT HELPS CLINICIANS RESPOND TO THE PANDEMIC

In recent months, Melbourne Medical School’s Mobile Learning Unit has developed a series of online courses aimed to equip clinicians globally with skills to respond to the COVID-19 pandemic.

The Mobile Learning Unit was established by the Melbourne Medical School to help academics create and deliver portable and flexible professional development offerings.

If you are a subject matter expert, get in touch with the Mobile Learning Unit to explore options for online course development.

Find out more: medicine.unimelb.edu.au/about/mobile-learning-unit
AUSTRALIA’S FIRST FULLY-ONLINE, CANCER-SPECIFIC DEGREE LAUNCHES

With the growing incidence of cancer worldwide, specialist leaders in oncology, cancer care, research, prevention, detection and cancer education are in increasing demand.

The newly launched Master of Cancer Sciences program is run jointly by the University of Melbourne and the Victorian Comprehensive Cancer Centre (VCCC), thus bringing together internationally recognised oncology expertise and cutting-edge online learning techniques.

“Within the Alliance, we have unparalleled access to world-leaders in the cancer field. This expertise has been channelled into a new, dynamic online curriculum. Our course gives students the opportunity to learn the craft from these experts - almost in real-time - as cutting-edge research and new clinical approaches develop,” says Dr David Kok (BMedSc 2004, MBBS 2006), course convenor and radiation oncologist at Peter MacCallum Cancer Centre.

The Master of Cancer Sciences can be completed over two years, part-time. Students complete two core subjects, four electives, as well as a research project in an emerging field of cancer research. “We aim to imbue students with the same passion for cancer care and research that our teaching staff have,” says Dr Kok.

“In addition, we are creating genuine multidisciplinary relationships between academics and students to foster a vibrant community of practice in oncology that will ultimately be able to make a significant contribution to patient care.”

Dr Campbell completed PhD research in otolaryngology in intraoperative surgical monitoring for cochlear implantation (work that led to patents pending with Cochlear). During his candidature, Luke was an awardee of the Melbourne Accelerator Program (2016) for the early development of his headphones.

You can learn more about Luke’s work and company, Nura, at: www.nuraphone.com

The Master of Cancer Sciences is Australia’s first cancer-specific, multidisciplinary, and wholly online program.

For more details:
study.unimelb.edu.au/find/courses/graduate/master-of-cancer-sciences
Musical skill is a familiar theme among medical students and health professionals. For some, their focus on music dwindles when the demands of university study, clinical placements and vocations take over. But for members of Corpus Medicorum, an orchestra comprised of practitioners, professionals and students of healthcare, music continues to resonate.

Corpus Medicorum, meaning body of doctors, was founded by Melbourne Medical School alum Mr Phillip Antippa (MBBS 1991) in 2002 and is considered one of the best amateur orchestras in Australia. Members currently include at least 30 alumni of the Faculty of Medicine, Dentistry and Health Sciences, with further members who are students of Melbourne Medical School or alumni of Melbourne Conservatorium of Music and Melbourne Law School. The whole orchestra enlists approximately 90 medico/musicians, some of whom are also part of the Australian Doctors Orchestra.

Mr Antippa is Head of Thoracic Surgery Services and Director of Lung Cancer Services at the Royal Melbourne Hospital (RMH) and is currently completing a Master of Public Health at the University of Melbourne. He is also Director and principal violist of Corpus Medicorum. Having studied viola seriously in high school, Mr Antippa considered pursuing music as a profession. He ultimately chose to focus on medicine, but never let his music go.

“The orchestral environment is unique,” says Mr Antippa. “It requires discipline, motivation and team spirit.” In his opinion, instrumental qualifications or orchestral experience on a young doctor’s CV show “this person has commitment, determination, diligence and great time management”.

It may be hard to imagine busy doctors turning up to rehearsals, but Mr Antippa is convinced you can make time when you want to. He says Corpus Medicorum “offers a diverse experience for medics with a sense of achievement beyond that of daily work or study”.

Corpus Medicorum profits are donated to lung cancer services and research at Royal Melbourne Hospital. The orchestra has raised over $750,000 to help patients with lung cancer.

The orchestra was established to encourage medicos to maintain their musical talents and give them an opportunity to perform. For current medical students and recent graduates completing their clinical training, it is also a chance to network with established specialists and practitioners, who make up the more senior ranks of the group.

Corpus Medicorum performs a regular cycle of three concerts per year at the Melbourne Recital Centre (MRC). For many performances they engage local soloists, often sourced from members of faculty at the Melbourne Conservatorium of Music. The orchestra has toured internationally three times on behalf of City of Melbourne, however, a trip planned for China in 2020 was cancelled due to the global pandemic, as were the first two of three MRC concerts this year. While international tours might be off the table for the foreseeable future, the orchestra hopes to get back to their regular schedule as soon as possible.

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To see the full program go to: corpusmedicorum.org.au
SPOTLIGHT ON ALUMNI

From the ICU to the emergency department, the mental health space to the research arena, it’s fair to say that this year has shone a light on the extraordinary work of healthcare professionals across the globe.

Australia’s response to the COVID-19 pandemic has been commended on a global scale. As Australia’s leading medical school we are immensely proud of our exceptional alumni community working on the ground, in policy and in research.

Over the next few pages we highlight just a few of our dedicated alumni whose work is making an impact both now and into the future as we fight and recover from this challenging moment in history.
Australia has widely been hailed as a global leader in our response to COVID-19. While there have been many factors that have played a role in our success, the advice from our dedicated expert alumni has been instrumental in Australia’s handling of this once in a generation pandemic.

**Professor Brendan Murphy**
(MBBS 1978, PhD 1990)
Chief Medical Officer
Commonwealth Department of Health
(2016 - 2020)
Secretary
Commonwealth Department of Health
(June 2020 - present)

**Dr Ruth Vine**
(MBBS 1980, GDipPsychMed 1990,
GDipArts(Crim) 1994)
Deputy Chief Medical Officer for Mental Health
Commonwealth Department of Health

**Professor Michael Kidd AM**
(MBBS 1983)
Deputy Chief Medical Officer
Commonwealth Department of Health

**VIC**

**Professor Brett Sutton**
(MBBS 1993)
Victorian Chief Health Officer

**NT**

**Dr Hugh Heggie**
(BSc 1980, MBBS 1980)
Northern Territory Chief Health Officer
Dr Stephen Parnis (MBBS 1992, PG DipSurgAnat 2000) developed a social conscience early growing up in Melbourne’s western suburbs – and is still fighting for what he believes is right.

As a pre-schooler, Dr Parnis insisted on attending a community meeting when the Whitlam Government planned sewerage services in the west. His recollection is sketchy but his father, Manny, who migrated from Malta to Sunshine in 1964 and married Australian-born Christina in 1967, tells him he would not take no for an answer.

It was the start of a journey through education, medicine and social activism that defines Dr Parnis in his roles as a Consultant Emergency Physician at St Vincent’s Hospital, the Royal Victorian Eye and Ear Hospital and Werribee Mercy Hospital.

He called for more personal protective equipment (PPE) early in 2020 as emergency specialists scrambled to prepare for COVID-19 and shared his experience online when he was forced to spend 14 days in isolation.

“Every patient who comes to an emergency department, you have to ask yourself: Is this a potential COVID case?” Dr Parnis says. “We know the numbers are smaller but you can’t let your guard down.”

Dr Parnis echoes the sentiments of many when he says Australia has done extremely well in containing COVID-19’s first wave, which highlights the importance of authorities being honest and open. “We like to value and cherish our freedoms as individuals, but we’ve also got a strong sense of community and look after each other,” he says.

One of the few benefits of COVID-19 was more time with his children. “Having time with your loved ones is probably the most important thing that we have,” he says.

Whatever happens next, Dr Parnis will continue to speak out, promote the value of education and defend his beloved west, where he still resides.

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Whatever happens next, Dr Parnis will continue to speak out, promote the value of education and defend his beloved west, where he still resides.
For Dr Stephen Warrillow (MBBS 1996, PhD 2020) professional life has involved balancing the pressures of intensive care with the rigorous demands of a PhD, all in the midst of a global pandemic.

While the world closed borders, donned masks and stockpiled hand sanitizer, Dr Stephen Warrillow completed his PhD. As the Director of Intensive Care at Austin Health, the Director of the Critical Care Institute at Epworth HealthCare, Immediate Past-President of the Australian and New Zealand Intensive Care Society and convener of the World Congress of Intensive Care in Melbourne last year, his PhD has been far from his singular focus. Alongside these impressive roles, Dr Warrillow has spent a considerable portion of the past 10 years researching the management of patients with acute liver failure.

While most doctors are well-versed in the art of multitasking, the pursuit of academic progression while balancing multiple and demanding leadership roles is a formidable achievement. This year, the COVID-19 pandemic has heightened the demands placed on Dr Warrillow.

Under his direction, there has been a huge effort to prepare for a potential surge in demand for intensive care beds. This has required a coordinated response from clinical and non-clinical teams across hospitals to ensure that intensive care units are capable of major expansion if required. Dr Warrillow has had to rapidly develop tiered, proportionate responses that incorporate clear thresholds for escalation across relevant hospital departments.

“We have practised managing many scenarios and learned a lot through this as well as through regular correspondence with colleagues based in hard-hit regions around the world. We have had to develop effective communication strategies for team meetings and family meetings where face to face is not possible, using videoconferencing to assist with both clinical work and COVID-19 planning.”

With this universal threat looming, the focus for healthcare professionals has been on systematic planning to safeguard the future. “The lessons on preparedness will be important as we plan for potential future pandemics,” says Dr Warrillow.

For medical professionals the impact of infectious diseases throughout history is well-understood. But Dr Warrillow believes that COVID-19 will encourage a “very different appreciation of biosecurity” in broader society.

**SCIENTIFIC INTEREST TO FAST-PACED HEALTH CAREER**

From as young as the age of eight, Dr Warrillow recalls having an innate scientific curiosity that culminated in various, occasionally explosive, home experiments. His parents encouraged his interests and cultivated a sense of duty to help others. It would be in Year 10, however, as a fresh-faced work experience student at the Austin, that the idea to study medicine firmly took hold in his mind as the ideal convergence of science and service. Interestingly, this mindset permeates his family, with all six of his siblings pursuing careers in some form of healthcare.

Leaving high school, Dr Warrillow found the University of Melbourne a fitting choice, inspired by its academic excellence and cutting-edge scientific reputation. This choice was certainly sweetened by the knowledge that his girlfriend at the time (to whom he’s been married since third year) would be studying at the Melbourne Conservatorium of Music next door to the Melbourne Medical School. Nonetheless, Dr Warrillow recalls that developing “the discipline and autonomy required for acquiring all of the skills and knowledge to practice medicine did not come easily at first. As I transitioned to clinical content, I suddenly found everything incredibly relevant and exciting.”

**PATIENTS ARE THE GREATEST TEACHERS**

He credits the teaching provided by senior doctors, but also affirms the value of each direct interaction with patients in cementing his love for medicine.

“Patients are also excellent teachers, and, in every encounter, I came to appreciate that there was a key learning if I was prepared to make the effort to seek it out.”

Dr Warrillow’s path became clearer as he was drawn to the challenging and multidisciplinary world of the ICU. Though each day sees the pressures of tending to the sickest and most complex patients, it can also be a place of great compassion and trust.

Dr Warrillow reflects that “as a junior doctor I found acute medicine both fascinating and a little intimidating. Caring for the sickest patients in a major hospital is a real challenge as well as a daily exercise in humility.”

Having the ability to provide technologically advanced interventions to a patient who might otherwise die and maybe provide an opportunity for them to recover can feel almost miraculous. “Above all else,” says Dr Warrillow, “it is a privilege to support patients and families as they experience some of the best and worst events of their lives.”

**CHALLENGES CREATE OPPORTUNITY**

For many, the global COVID-19 pandemic has stirred a sense of uncertainty and disillusionment. Despite this, Dr Warrillow affirms the many sources of hope and light. The most unexpected lesson for Dr Warrillow throughout his career has been how similar people are when dealing with major challenges, and the universality of experience regardless of background, education, culture or religion. When we refuse to be distracted by our differences, he sees a future marked by immense potential.

Working on the front line of a major health crisis, Dr Warrillow is regularly reminded of both the fragility and the resilience of the human spirit. He maintains that “Humanity, despite our various flaws, is capable of remarkable achievement when we promote our best selves.” This inspires confidence in him that despite multitudinous challenges, we are capable of finding solutions if we set aside differences and recognise all that we have in common.

To hear more about Dr Stephen Warrillow’s work tune into the Chiron podcast: medicine.unimelb.edu.au/visit/chiron
A GLOBAL PERSPECTIVE
BY CHERYL CRITCHLEY

Helping people has always motivated Professor Fiona Russell (PhD 2011), who has improved the lives of countless families globally.

Professor Russell, who coordinated the Department of Paediatrics’ efforts to share COVID-19 research and keep the public informed, grew up in a family with a strong social conscience. This helped to inspire a decorated career as a paediatrician, epidemiologist and translational researcher that has shaped international public health policy.

TAKING ON THE WORLD
At just 17, Professor Russell, who was the youngest of five, moved to Adelaide to study medicine at Flinders University. She gravitated to paediatrics, studying and training in Melbourne, Sydney and Darwin, where she worked in Indigenous health. The inequities she saw in Indigenous health sparked her interest in public health. During her medical degree, Professor Russell took a year off to travel the world and ended up in Egypt, Turkey, and India. She completed her medical electives in Malawi and Kenya, which helped shift her focus to public health on a global scale.

Professor Russell joined the Centre for International Child Health with Professor Kim Mulholland (MBBS 1976, MD 1996) and Professor Jonathan Carapetis AM (BMedSci 1986, MBBS 1986) when it was established in 2000 within the University of Melbourne’s Department of Paediatrics and the Royal Children’s Hospital. Her PhD was a clinical trial of pneumococcal vaccine schedules in Fiji, which demonstrated more suitable and affordable delivery methods. The results informed vaccine schedules and changed World Health Organisation (WHO) policy.

IMPROVING LIVES ACROSS THE WORLD
Professor Russell is now Child and Adolescent Health PhD Program Director, Murdoch Children’s Research Institute Asia-Pacific Health Research Group Leader, and a Melbourne Children’s Global Health Leadership team member. She consults with WHO and UNICEF and has led many projects that saw her live in Fiji and Vietnam for 10 years. Her work in Fiji, which includes writing child health policies, has led to its government, with DFAT support, introducing pneumococcal, rotavirus, and HPV vaccines.

Nine other countries in the region will also do so.

Professor Russell is now measuring the successful health outcomes and among many other things leads a NHMRC trial on the prevention of maternal and infant infections in Fiji. She is also a WHO Maternal and Child Health COVID-19 research group member.

HIGHLIGHTING AND FIGHTING INEQUITY
During the COVID-19 crisis, Professor Russell led a regular Department of Paediatrics COVID-19 kids research evidence update and a series of COVID-19 Kids webinars on topics such as the pandemic’s effect on children and the impact on families in poor countries where the situation is potentially catastrophic.

“All the gains that have been made in maternal and child health for the last 20 years are going to just be lost … virtually in six months if essential services are shut down and that’s just devastating in poorer countries.”

Professor Russell is also Deputy Director of the Australian Regional Immunisation Alliance, which is likely to lead to COVID-19 support in places like the Pacific Islands, Papua New Guinea and Timor Leste. The pandemic has highlighted global inequalities and the need to address long neglected areas such as access to clean water and soap, decent housing, paid work, and affordable quality healthcare.

Through her networks and partnerships, Professor Russell also aims to ensure that all people, including the most vulnerable, can access a future COVID-19 vaccine.

“All this stuff takes a lot of stars to align and there’s a lot of players and a whole range of factors involved. A lot of it is advocacy work using local data and networking and nudging behind the scenes.” she says of her work.

“It has impact and it’s very measurable and very satisfying.”
A pioneer of modern mental health care, Professor Patrick McGorry AO (MD 2003) has never shirked a challenge.

In the 1980s when he moved into psychiatry, namely schizophrenia and psychosis, his medical colleagues tried to talk him out of it. “They said, ‘don’t waste your life in that field’,” Professor McGorry recalls. “Don’t waste your life on those people’ – in other words, the mentally ill.”

As a child of the idealistic 1960s and 1970s, the young doctor became determined to improve the situation. Five decades on, he has helped transform mental health care, earned a string of accolades, including 2010 Australian of the Year, and most recently played a critical role in putting the spotlight on mental health during the COVID-19 crisis.

Among many other things, he is now Executive Director of Orygen, Professor of Youth Mental Health at the University of Melbourne’s Centre for Youth Mental Health and President of the International Association of Youth Mental Health.

A PASSION FOR PSYCHIATRY

The eldest of four children, Patrick McGorry was born in Ireland in 1952. His family moved to Newcastle in New South Wales when he was 15. His father was a chest physician and his mother a nurse.

At Newcastle Boys’ High School, the studious young Patrick considered studying modern languages, which he excelled at, but says, “I couldn’t make the argument that I could really have a career in that space. My father would say things like ‘just get a medical degree and then you can do whatever you like’. And he was kind of right because that’s what I did.”

EARLY INTERVENTION AIDS RECOVERY

Professor McGorry made the move into psychiatry after studying medicine and surgery at the University of Sydney and was lured to Melbourne in the mid-1980s by Professor Emeritus Bruce Singh AM (Hon DMedSc 2014) to develop schizophrenia research programs at the now closed Royal Park Psychiatric Hospital.

Professor McGorry’s groundbreaking research - partly conducted through a Doctor of Medicine (MD) at the University of Melbourne - focused on recognising and managing early psychosis. “We found an earlier stage of the illness when there were clear warning signs,” Professor McGorry says.

An early psychosis centre that he ran morphed into Orygen, which Professor McGorry still leads. Working with like-minded experts globally, he drove reform based on early intervention and a recognition that those with schizophrenia could truly recover.

“Schizophrenia was regarded as an illness from which you simply could not recover, and patients were told ‘you’ll never work, you’ll never get married’,” he says. “We changed that.”

The Orygen team also broadened the early intervention model to include mental illness generally and, despite some controversy when others questioned their ideas, they have made steady progress since.

MENTAL HEALTH IN THE COVID-19 AGE

Professor McGorry says mental health services still need to be a much higher priority and receive a huge boost in funding, particularly in the COVID-19 era. While the global pandemic has shone a much-needed light on his field, as most of us have been affected, it will also greatly increase demand for already overwhelmed services.

“We know that when you have a global disaster followed by an economic recession the need for mental health care is going to go up dramatically and so are the suicide rates,” Professor McGorry says. “We’ve modelled a 30 per cent increase in the need for care.”

“There’s a huge need for a, safety net for mental health care, especially for young people because they’re going to be much more heavily impacted by the economic effects of this crisis and they’re already the group that bears the greatest burden of mental health across the lifespan.”

In his rare spare time, Professor McGorry loves to ski, snowboard and surf; a skill he honed during his teen years. “When I was living in Newcastle I learned how to surf,” he says. “I’ve done that for the last 50 years and I’m still able to do it, just, as a geriatric.”
Professors George Patton and Susan Sawyer are an academic power couple, having led global research on adolescent health for 25 years. They and their colleagues have greatly advanced the understanding of adolescence and its effects on health across the life course.

Looking back, it is clear how these different threads took me to research in adolescent health. When I came back to Melbourne, the Centre for Adolescent Health had just been established, led by now Professor Emeritus Glenn Bowes AO, another generous mentor. That was in the early 1990s when we were beginning to recognise adolescence was changing and with it came new problems in mental health and drug use. Until that time, we believed that adolescents would grow out of these problems, a view that led to a benign but problematic neglect of young people in research, policy and practice.

The Centre and the University have provided a great base for my work. It extends from domestic research to projects with partners in India, China, Japan, South Africa, Bangladesh as well as the UK and US. Quite honestly, this is where together the group, and the University of Melbourne, has led the world in adolescent health.

Susan and I often joke that she has become more like a psychiatrist and me a paediatrician. We complement each other. She is more people oriented and I am more focused on getting the task done. I take leadership around the technical and research side and Susan around education, training and mentorship of the next generation of clinicians. It’s not a conventional leadership structure – we have given up trying to draw the organisational chart for years – but it works. We both have partnerships and advisory roles across the UN system, with leading universities and the World Bank.

The world today is very different for this generation. The journey to adulthood was already a lot more difficult but the indirect consequences of the pandemic are going to make things much harder. Every generation of adolescents meets a new set of challenges with their own creativity, but it is still important that we ensure this isn’t a lost generation.

TRANSFORMING OUR FUTURE STARTS WITH AN INVESTMENT IN ADOLESCENT HEALTH TODAY

BY CHERYL CRITCHLEY

That means different thinking from governments. We often talk about financial capital, but that ultimately depends on human capital and for any country that lies in the capabilities of its young people. A big challenge for our university is how we make that investment in the capabilities of this next generation facing the formidable challenges of a post-COVID world.

SUSAN

My family made an early ‘tree change’ when we moved from Melbourne to a 1500-acre property in north east Victoria when I was in grade six. My early interests in agriculture and veterinary science finally morphed into medicine, which saw me follow in my mother’s footsteps (Dr Barbara Sawyer (nee Stuart), MBBS 1955). In retrospect, I learnt a lot about adolescence through moving from Preshil, a pretty alternative primary school, to Wodonga High School. It was a major cultural change, as was the year I spent as an exchange student in Japan after Year 11.

After graduating from medicine, I started my paediatric training at the Royal Children’s Hospital (RCH). I specialised in respiratory paediatrics, and my higher degree focused on the new challenges faced by adolescents with cystic fibrosis. That coincided with the establishment of the Centre for Adolescent Health in 1991, and my emerging interest in adolescent health and medicine was fostered by its director, Professor Glenn Bowes AO.

After postdoctoral studies at Harvard, I returned to an academic appointment in the Department of Paediatrics in late 1995, which saw me juggling adolescent health and respiratory medicine. I remember when I returned from Boston thinking that George was the research boffin in the basement.
I didn’t come across him much in my day-to-day role early on, but we have worked closely together for the past 20 years, effectively running the Centre for Adolescent Health together, initially with George at the helm (1999-2005) and then me.

The first decade of our work in adolescent health focused on adolescents in Australia. George and Glenn started the first longitudinal study of adolescent health and wellbeing, which proved highly influential. Beyond expanding the adolescent medicine clinical service at the RCH, I set about mainstreaming the teaching and training of adolescent health and medicine locally and then to develop the pathway for accreditation of specialist training in Adolescent and Young Adult Medicine within the Royal Australasian College of Medicine.

Our work has helped shape wider views about the significance of investing in adolescence, not just in high-income countries like Australia but also in low and middle-income countries and importantly, by the various UN agencies. The Lancet Commission on Adolescent Health and Wellbeing is an example of this joint leadership as is our MOOC on Global Adolescent Health.

We married eight years ago. In the context of our personal relationship, one can perhaps push harder or explore themes more deeply than one might be prepared to do with other work colleagues. Working together has taken each of us to places that otherwise, individually, I think we might not have gone. I don’t think we disagree on any of the big things. It’s rather a sense of a different perspective that we each bring.

The acute health impacts of COVID-19 are disproportionately experienced by older Australians but the potential for long-term scarring from interruption to education and employment will be carried by adolescents and young adults throughout their lifetimes. There will need to be a new set of policies that respond to these challenges. Without focused investment, we will see deepening of the existing inequities between those who are better resourced and those who are vulnerable or marginalised.

Yet, the agility with which our governments and communities have engaged in responding to COVID-19 is also exciting. The world’s young people will have high expectations about how this same level of collaboration can be brought to even larger existential threats, like climate change. A continued openness of spirit will be needed. It’s going to be a very interesting period ahead of us.

To hear more about Professor Susan Sawyer’s work tune into the Chiron podcast:

[medicine.unimelb.edu.au/visit/chiron](http://medicine.unimelb.edu.au/visit/chiron)
When he witnessed a doctor treat a Sherpa during a trek through Nepal, Professor Jason Kovacic (BMedSc 1992, MBBS 1994) knew he had to pursue medicine.

The Oarsome Foursome also played an indirect role in Professor Kovacic’s decorated international career as a researcher physician when he gave up an elite rowing career to become a cardiologist who most recently joined the fight against COVID-19.

The Nepalese revelation came in late 1985 as the newly graduated Caulfield Grammar student trekked through Nepal with a school group and a Sherpa who had a boil on his back. A doctor in the group offered to treat it.

“This doctor gets out his kit and I just have this graphic recollection of it, with the backdrop of the Himalayas rising behind,” Professor Kovacic recalls. “And I thought ‘This is what I want to do. I just want to help people’.”

So began a 17-year journey to qualify as a physician-scientist and cardiologist, including a Bachelor of Medical Science and Bachelor of Medicine and Bachelor of Surgery (MBBS) at the University of Melbourne in the early 1990s.

Until then, the 200cm athlete had juggled rowing with study, representing Australia as a junior and winning the famous King’s men’s eight title with members of the Oarsome Foursome in 1994 during the final year of his medical degree.

In 1995, he just missed national selection and decided to concentrate on medicine, starting residency at Prince of Wales Hospital and then doing internal medicine and cardiology training at St Vincent’s Hospital in Sydney, ultimately completing a PhD at the Victor Chang Cardiac Research Institute (VCCRI).

THE POWER OF PERSEVERANCE

While the Oarsome Foursome won gold in Atlanta in 1996, Professor Kovacic has gone on to have a stellar international career that came full circle in early 2020 when he became Executive Director of the VCCRI and Professor of Medicine at the University of New South Wales.

“Rowing was hard but one of the things it taught me was the importance of tenacity and perseverance and resilience, if you want to achieve anything you really have to give it everything you’ve got,” he says.

In 2007 Professor Kovacic moved to the National Heart, Lung and Blood Institute at the National Institutes of Health in Maryland and then Mount Sinai Medical Center in New York in 2009.

At Mount Sinai’s Icahn School of Medicine, he established the world leading Kovacic Laboratory to focus on relatively neglected conditions such as fibromuscular dysplasia and spontaneous coronary artery dissection. He will continue to run the Mount Sinai lab after it secured further NIH funding, and he remains jointly appointed as Professor of Medicine there.

DEALING WITH THE COVID-19 CRISIS

Professor Kovacic returned to Australia with his wife and two young children in early March 2020, just as COVID-19 threatened to take hold in Australia, to take up his role at the VCCRI.

The VCCRI is involved in several COVID-19 projects, including one with St Vincent’s Hospital in Sydney and other hospitals that will look at stem cell therapies to treat COVID-19.

“There’s some remarkable opportunities in Australia that are very unique to this country,” Professor Kovacic says. “When Australia bands together, unites and does things collectively, it’s a powerful thing.”

The COVID-19 response was a case in point, with Australia quickly ‘flattening the curve’. “I’m not surprised that we’ve seen this unprecedented rallying from the medical profession around COVID because it’s just what health professionals do,” he says. “It’s why we do medicine.”

Unfortunately many of his US colleagues and patients were not so lucky. “Most people in New York know someone who was sick or succumbed to the virus.”

TAKING ON A TOUGH OPPONENT

He now hopes to intensify his fight against fibromuscular dysplasia, which causes problems with blood vessels. An international collaboration has discovered several genes that cause the disease, as well as disclosing a blood protein signature, and developing the first mouse model.

Such skill and determination run in the family. Professor Kovacic’s sister Dr Katherine Kovacic (BVSc (Hons) 1996, GradDipArts 2004, PhD 2015), who studied veterinary science at the University of Melbourne, is also an accomplished author, and famed Slovenian poet, novelist, and playwright Ivan Cankar was their great, great uncle.
Professor Kovacic’s late father was originally named Cyril Poč, but when he fled Yugoslavia as a teenager, the safest way was to adopt the maiden name of his late mother – Kovačić. Cyril arrived in Melbourne in 1957, penniless and still only 19.

“His sister (Neza Cankar) was my great, great grandmother and she married Ivan Poč,” Professor Kovacic says. “They had four kids and one of them was my grandfather Ciril Poč.”

“He had a remarkable work ethic and after having many jobs, he eventually built a thriving business dealing in precious rock and mineral specimens,” Professor Kovacic says. “As well as rowing, my dad certainly instilled into me the importance of perseverance and a solid work ethic.”

To hear more about Professor Jason Kovacic’s work tune into the Chiron podcast:

[medicine.unimelb.edu.au/visit/chiron]
Over generations, knowledge is shared through education, organisations, friends and families. This deliberate and sometimes incidental transfer is one of the ways we adapt to challenges as a species. In 2019 and 2020, as we address the global pandemic, public health practices have become part of our daily lives here in Australia.

But while they may feel new to us, some of the strategies we see in action now have been tested over decades or even centuries. For Dr Yvonne Ho AM (MBBS 1989), a fourth generation western-trained doctor, such intergenerational knowledge is both a professional and a personal experience.

After graduating and specialising in radiology and nuclear medicine, Dr Ho moved to Singapore. There, she co-pioneered the Royal Australian and New Zealand College of Radiologists (RANZCR)’s radiodiagnosis program and oversaw the expansion of the nuclear medicine department at Singapore’s National University Hospital. She also owns and runs a successful music school.

### KNOWLEDGE FROM HISTORICAL ROOTS

“While living in Singapore, I came to appreciate my own medical roots and I took the opportunity to learn more about my ancestor, Dr Wu Lien Teh. He is well known in Asia as a historical figure and details of his life are stored in the National Library of Singapore,” said Dr Ho.

Dr Wu, born and raised in the British colony of Malaya, was the first person of Chinese heritage to graduate in medicine from the University of Cambridge. He is renowned for his role in eradicating the 1910-1911 pneumonic plague in China, also known as the Manchurian plague.

These days, Harbin, in north-eastern China, is known for the world’s largest annual ice-festival, but in 1911 it was the epicentre of an outbreak that killed more than 60,000 people, with a death rate of 100 per cent.

Dr Wu led the response to the epidemic and initiated public health measures such as isolation, containment, mitigation and public education to contain the spread of disease. He invented and popularised the use of a new kind of face mask with protective layers of cotton wool, held within a gauze bandage positioned securely over the nose and mouth.

The mask formed a major defence against infection in 1911 and is considered to be the earliest version of the N95 mask. Under Dr Wu’s direction, the pneumonic plague was contained and eradicated in Harbin, with the last case recorded on 1 March 1911. Dr Wu became world-famous for his interventions and was nominated for a Nobel Prize in 1935.

The wearing of masks was revived during the Spanish flu pandemic of 1918. Today, masks are being worn in unprecedented numbers worldwide in response to the COVID-19 pandemic: cloth masks by the public and surgical and N95 masks by healthcare workers. Contemporary scientific evidence indicates that mask-wearing reduces the transmission of infected droplets and, therefore, the transmissibility of disease from human to human.

Dr Ho was inducted into the Victorian Honour Roll of Women in 2013, was an Outbound Endeavour Fellowship awardee in 2014, and awarded a Member of the Order of Australia in 2015 in recognition of her service to the community.
MOBILISING ACTION TO MAKE AN IMPACT

In March 2020, Dr Ho helped to coordinate a multidisciplinary effort in response to the COVID-19 pandemic in Australia. Working with the Australian and New Zealand Intensive Care Society (ANZICS) and Australian Veterinary Boards Council (AVBC), Dr Ho was pivotal in connecting the siloed medical and veterinarian fraternities. Their work resulted in the creation of a live nationwide registry of human ventilators belonging to veterinarians that can be mobilised quickly for use in intensive care units (ICUs) in the event of a COVID-19 surge.

Subsequently, in collaboration with a larger team of intensivists and researchers, we determined a profile of the COVID-19 surge capacity in all Australian ICUs and highlighted the potential shortfalls in available staff and equipment” said Dr Ho. In record turnaround, they published a paper on the topic in the Medical Journal of Australia on 19 April 2020.

“We are fortunate that in 2020 we have medical advances and digital connectivity to address diseases.

However, just as the Manchurian plague showed, we hope the COVID-19 pandemic will emphasise that a medical pandemic response has the best chance of success if centrally coordinated, led by medical and scientific experts, guided by science, away from politics. Politics has a role to inspire the people to follow science and medical leaders. It is hoped that our pandemic will impress upon politicians and citizens worldwide that, far more critical than politics, money and conflict, it is good health that leads to a nation’s prosperity,” said Dr Ho.

PROFESSIONAL COMMUNITY SUPPORTS STUDENTS DURING CRISIS

The onset of COVID-19 earlier this year created a ripple effect of challenges through the Melbourne Medical School. Subject coordinators scrambled to get content online and clinical placements were cancelled.

Professional identity formation, ethical practice and wellbeing are some of the core themes taught as part of the Melbourne MD Professional Practice. As part of the current MD redesign, vertically integrated professional practice was to be progressively rolled out across all four years of the degree. However, this year’s disruption necessitated fast-tracking of the plan to provide support and mentorship to our students who were socially isolated, facing the unknown and expressing concern about their career, health and wellbeing.

While working to address the impact of reduced patient contact on the development of clinical skills, the priority was to address the professional practice needs of an understandably anxious student body. The immediate problem was one of teaching capacity, as over 100 tutors were required to support approximately 750 students in online small group sessions.

The school enlisted the help of the MDHS Alumni team, who helped circulate a call out to our medical community including current clinical and academic staff and medical school alumni. Within two days we had 130 expressions of interest. Many of these individuals were not currently involved in the course but all expressed desire to support the students.

Briefing sessions were run online and a virtual community was created for the new tutors. Four weeks later the tutorials were launched via Zoom for third and fourth-year students.

Dr Pavithra Amadoruge (BBlomedSc 2006, BSc (Hons) 2008, MD 2014), an unaccredited surgical registrar based in Melbourne stepped forward into the role of tutor when she saw the call out.

“Being a part of the program provides me with the opportunity to give back to the Melbourne MD community, who I feel fortunate to continue to collaborate with,” she said. “Melbourne MD students are our future doctors, and it is a privilege to be able to provide meaningful contributions to further the education and professional development of final year medical students during this vital period in their careers.”

Though there have been many learnings from the speedy implementation of this program, the ability to pivot so quickly and get this project up and running within such a short period of time is a testament to the staff working tirelessly behind the scenes. But without fantastic support and engagement from the wider community, it would not have been possible.

Dr Amadoruge was impressed with how quickly things moved online. “It is exciting to be a part of the successful transition to purely virtual teaching, which, prior to these times, was a novel platform for medical education.”

“Whilst I was a Melbourne MD student, I had inspiring, knowledgeable and supportive tutors who always fostered excellence, curiosity and resilience,” she said. “I hope to provide a similar experience for students through this program and look forward to supporting the Department of Medical Education to expand this program into the future.”

We are so grateful to those alumni who reached out and participated as tutors over the past few months, one of the most challenging times in recent history, and we look forward to expanding the program over the coming years.
For students preparing to graduate, the transition from study to professional practice can be daunting. While classrooms and practical training prepare students for clinical settings, mentoring can help students build soft skills like networking and interview skills.

**MDHS MENTORING PROGRAM LAUNCHED**

This year the Faculty of Medicine, Dentistry and Health Sciences (MDHS) launched its Faculty-wide mentoring program for final year students.

Welcoming 749 medical alumni and students in its first year, the program supports students through their final year of study and as they navigate the transition from university to professional practice.

“Mentoring offers students a non-judgemental learning space, a supportive and encouraging environment and opportunities to build new professional networks,” says Dr Nicky Kilpatrick, Paediatric dentist and MDHS mentoring consultant.

Participating students can gain valuable advice and insights from those who have gone before them. As mentors, our alumni have the chance to enhance their coaching and leadership skills and keep up to date with the latest in medical teaching.

“Alumni have the opportunity to learn mentoring skills, give back to their community and understand the perspectives of the next generation of doctors,” says Dr Kilpatrick.

**MENTORING IN THE AGE OF COVID-19**

In this time of social distancing and online learning, the support, connection and structure that a mentoring partnership can provide is more important than ever – for students and alumni mentors alike.

The program commenced in March this year, just as stage three social distancing laws were introduced across Victoria. For a program intended to take place mostly face-to-face, the path forward was unclear.

Luckily, with the help of technology, the program was able to adapt quickly and proceed with all mentoring meetings taking place virtually.

Participants have access to a set of online tools, along with a virtual training workshop to help set expectations and develop skills from the outset of the program.

“In a world in which there is a heightened sense of shared vulnerability, mentoring offers a particular value in collegiality and connection,” says Dr Kilpatrick.

**A UNIQUE PARTNERSHIP**

Stephen Carbone (MBBS 1985, BA 1994, BSW 1998, MPH 2017) and final year student Olivia Baenziger (BBiomed 2015) applied to be a part of the mentoring program earlier this year.

By March they’d heard that their applications had been successful and that they had been matched.

Before they could arrange their first meeting, COVID-19 took hold and stage three restrictions were instated across Victoria, preventing them from meeting face-to-face.

Despite this setback, Stephen and Olivia are already halfway through the program and learning a lot from each other.
DR STEPHEN CARBONE

Dr Stephen Carbone is a former general practitioner turned public health expert. He has a passion for promoting mental wellbeing, something that in the wake of COVID-19 will be needed more than ever.

He is currently the Executive Director of Prevention United – a mental health charity focused on preventing depression, anxiety, and other conditions from occurring in the first place.

Dr Carbone has followed an unusual career path for a medical practitioner. Given his broad interests, it’s only fitting that he now mentors a student studying a double degree in medicine and public health.

“I hadn’t thought of becoming a mentor until I got an email from the Alumni team and thought – why not? I wanted to give something back to the medical and public health community, and I thought this was a way I could help out.

“Things are always changing and progressing, and I think mentoring someone who is early in their career is a great way to stay in touch with what’s happening in the field. I see it as a mutual exchange of experiences, knowledge and ideas and I’m sure I’ll learn a lot from Olivia along the way.

“Working with Olivia has been enjoyable and definitely not onerous. We’ve met a couple of times via Zoom given the restrictions in place because of COVID-19. I thought I would need to try to be wise and helpful each time we spoke, but it’s really been more of a chat about what each of us is up to and sharing information and experiences that we think are useful.

“I am super impressed by Olivia. She is thoughtful, smart, enthusiastic, and involved in things – nothing like what I was like at uni. I admire her energy, her genuine interest in people and that she likes exploring and being involved in activities outside uni which I think is really important. I also admire the fact that she is doing the double degree – MPH and MD.

“The current situation has been a good talking point as we’re both interested in public health and we’re both super impressed by the great job our public health people are doing at the moment (as well as our scientists and clinicians!).”

OLIVIA BAENZIGER

Oliva Baenziger is in her eighth year of study at the University of Melbourne. With a Bachelor of Biomedicine under her belt, Oliva is now completing her final year of a double degree in medicine and public health.

Having been fortunate enough to be part of a pilot mentoring program run in public health last year, Oliva was eager to participate again this year and broaden her horizons, this time in the field of medicine.

“Between my third and final year of medicine, I entered the Master of Public Health. This dual study opportunity is a fantastic initiative at the University of Melbourne. I love how public health intersects with many of my other interests in human rights and social theory. I believe that formal public health study will empower me to be a more holistic doctor, no matter what specialty path I pursue.

“I’ve learnt a lot about the value in networking and mentorship during my Master of Public Health. I find I am now much more open to getting to know people from areas outside my comfort zone and interests and learn about their careers. Given it is my final year of study before entering the medical workforce, it was nice to connect, reflect and gain insight into the experiences that others have had when in the same position.

“Being matched with Stephen has been great. I always like hearing about the different career paths doctors venture upon and hearing about Stephen’s work and journey has been very inspiring.

“Working with Stephen has enabled me to gain insight into some of the less common career paths medicine may lead to. I have been able to meet people I would have likely not otherwise met and learn about the structure and complexities of healthcare in Victoria.”

“I have also heard a lot of really interesting stories about the workforce and a few positive gems to keep me optimistic about my future in medicine.”

INTERESTED IN SUPPORTING A FINAL YEAR MED STUDENT?

Applications for the MDHS Mentoring Program 2021 will open later this year. Head to our website to find out more: mdh.unimelb.edu.au/engage/alumni/mentoring
PAYING IT FORWARD

BY MEEGAN WAUGH

Professor Emeritus David Penington AC (MBBS 1949, Hon LLD 1995) has had an illustrious career spanning three continents, including roles as the Dean of the Faculty of Medicine and Vice Chancellor of the University of Melbourne. Now, through a new scholarship, he’s helping first-year medicine student Jake Laycock set the foundations for his own successful career.

DAVID PENINGTON

Through both my education and my professional career, the University of Melbourne has been a central part of my life for many years. I passionately believe that education is the driver of development for our community and that people should have the opportunity to achieve their full potential.

In 1950, halfway through my third year as an undergraduate at Melbourne Medical School, I was awarded a scholarship to Oxford. There, I completed a medical degree and a doctorate, and ended up staying in the United Kingdom for the next twenty years. I went on to do academic work and research at London Hospital, being appointed to senior staff at the age of 33.

I returned to Australia and re-joined the University of Melbourne in 1970, when I was appointed Head of the Department of Medicine at St Vincent’s Hospital. I became Dean of what was then the Faculty of Medicine in 1978. During my time as Dean I reformed the Medical School radically based on my earlier experiences – my focus was to teach people to think about medicine more holistically, rather than just the facts.

I stepped down as Dean in 1985 and was appointed Vice Chancellor of the University of Melbourne in 1988 – a position I would hold until 1995. I’m now an Emeritus Professor. I still have an office at the University – although I haven’t been able to visit it lately due to COVID-19.

I think the MD is a marvellous program. I’ve attended many events and met students who have had support in their education. I have dinner with the Head of Melbourne Medical School each year and I’ve seen what the University does to make a difference to those students’ lives. That’s had a big impact on me.

I think it’s necessary to ensure that people from all different economic and cultural backgrounds achieve their full potential. I wanted this scholarship to support a student who might otherwise have difficulty taking the four-year graduate program.

Jake is a real thinker with an interest in research and in the human aspect of medical practice. He’s a person with real empathy for patients and I think he’ll become a marvellous graduate and contribute to improved health for the wider community. I’ve not been able to meet Jake personally because of the current restrictions on travelling, but I’m quite thrilled and very much looking forward to meeting with him.
I began studying at Melbourne Medical School in Semester 1, 2020. The thing that has stood out to me is the extraordinary extent to which the Medical School goes to ensure they deliver an exceptional program. I’m repeatedly excited by the high calibre of academics that we’re lucky to work with on a day-to-day basis. Even in light of all the challenges 2020 has thrown at us, I’m impressed by how smoothly the School has kept things on course.

If I had to choose a favourite subject, it would be our Case Supported Learning (CSL) classes. On Mondays, we’re presented a hypothetical patient case orientated around that week’s particular learning objectives. We piece together the information we do know and get an idea of all the things we have no idea about (which can be extensive). Throughout the week we build our knowledge so that by Friday we can apply it to our patient scenario. I think of it as the game day in footy! During the week you need to follow through with all your training: cardio, weight sessions, ball drills, so that come kick-off (apologies to the Victorians) you can put them all together as a team.

My favourite thing about Medical School so far has been meeting so many amazing new people. Leaving your friends and family behind and moving interstate, as I did, is a daunting experience. However, within the first few hours of orientation week, I knew I had made the right choice. I think medicine is such a tough course to set out on that it very much galvanises everyone together. I came to Melbourne some years ago to visit a friend for the weekend. I had seen photos of the Parkville campus and was familiar with Melbourne Medical School’s position in the world rankings. I had a few hours to kill before my flight and decided to spend the afternoon going for a walk and found myself in the Old Quad. I remember seeing the ivy-covered buildings and imagining all of the brilliant minds that had passed through its doors. I walked by the Florey Institute and then the Doherty. I decided that day that if I could study medicine anywhere, it would be here.

I completed my Honours in neuroscience at the Queensland Brain Institute, supervised by a neurosurgeon and neurologist who specialise in deep brain stimulation. I had my first experience of “real medicine” when I was lucky enough to go into the operating theatre to observe them at work. The patient that day was a woman with Parkinson’s Disease. She was visibly frightened as she needed to be awake when the electrodes were implanted into her brain. She couldn’t turn her head so the neurologist crouched down so that she could see his face and whispered something that only she could hear. It made her laugh and left a smile on her face. Where there was fear before, now there was trust.

To me, my supervisor had exemplified the very definition of a doctor without even touching a scalpel. The neurosurgeon set to work implanting the stimulating electrodes and then, with the flick of a switch, stimulation was turned on. Like magic, after so many years, this patient stopped shaking. It was that moment that I knew I was pursuing the right path.

When I heard I had been awarded the David Penington scholarship, I couldn’t believe it. The support this scholarship provides is so generous. It liberates me from financial burden and uncertainty while I’m studying so that I can concentrate on achieving my academic potential. Professor Penington is a fascinating man who holds many of the qualities that I hope to incorporate into my own professional identity, and I’m excited to meet with him once the current situation permits. In the meantime, I owe David all the thanks in the world for his support.
COVID-19

OUR RESPONSE, OUR IMPACT, OUR FUTURE

Causing widespread disruption and impacting all parts of society, the COVID-19 pandemic is proving to be one of the toughest challenges of our generation.

As we search for a solution, it’s hard not to think that this ‘new normal’ may just be the way we’ll live forever, or at least for the foreseeable future.

The University of Melbourne – along with its partners, colleagues and, in particular, health alumni – has been on the forefront of the pandemic since it hit our shores in February. The following stories are just some of the incredible innovations, research and human responses from across the Faculty and beyond.
The Doherty Institute has been at the forefront of the response to COVID-19 since January 2020 and continues to lead the way in research and policy advice. The Institute is a joint venture between the University of Melbourne and The Royal Melbourne Hospital, combining research, teaching, public health and reference laboratory services, diagnostic services and clinical care in infectious diseases and immunity.

THE CUTTING EDGE OF COVID-19 RESEARCH
COVID-19 changed the world in 2020, infecting millions and killing hundreds of thousands globally. Those who did not become ill were physically isolated, while many lost their jobs or juggled home schooling with working from kitchen tables and lounge rooms around the world.

From the moment news reports surfaced about SARS-COV-2, the virus that causes the disease COVID-19, in Wuhan, China, the Doherty Institute team swung into action to do what it was conceived and purpose-built to do – investigating infectious disease threats to human health and developing ways to treat and beat them.

It showed the spirit of the Institute’s namesake, University of Melbourne Laureate Professor Peter Doherty AC (Hon LLD 2012) who shared the 1996 Nobel Prize with Rolf Zinkernagel for their discoveries of transplantation and ‘killer’ T cell-mediated immunity, which ultimately translated into new cancer treatments.

The Doherty Institute has shown phenomenal global leadership through this challenging and uncertain time and has helped put Melbourne and indeed Australia on the map as a world leader in infectious disease preparedness and response.

Among other things, the Doherty Institute was the first lab outside of China to grow the virus, and the first to share it with public health laboratories globally in January 2020. It has modelled infection projections to help policy makers in government, and continues to work towards a possible vaccine and identify potential treatments.

LEADERSHIP THROUGH ADversity
The Doherty Institute was thrust into the international spotlight when COVID-19 emerged, and its research has since contributed to global knowledge about the pandemic. Director Professor Sharon Lewin AO and her team played a big role in educating the public and dispelling myths.

Professor Lewin was integral in mobilising government and philanthropic funding while pivoting the Institute’s attention to COVID-19, and maintaining its other important work. In April 2020, she explained that 300 clinical trials had already begun around the world. Many involved existing drugs for other conditions, such as HIV and Malaria.

“We have a range of antiviral drugs and a range of drugs that modulate the immune system and they need to be tested in clinical trials,” she said. “We have two big clinical trials now happening across the country.”

“One of them is REMAP-CAP which is looking at antiviral drugs and drugs that modulate the immune system in hundreds and thousands of people in intensive care across Australia and around the world.

And the other is a large clinical trial called ASCOT, led out of the Doherty Institute.”

Professor Doherty also helped to inform the public throughout the COVID-19 crisis by appearing in the media, using social media and producing a blog on the Institute’s website. In late May 2020, he said that after doing well to contain the spread, Australia was heading into unknown territory.

“At the Doherty Institute, our scientists and medical professionals who are involved in community testing, in the development of drug and vaccine strategies, and in coordinating with diagnosticians, researchers and physicians locally, nationally and internationally (a key information stream), are immensely grateful to our political leaders and to our fellow citizens for the respite of this lockdown period,” he wrote.

“[f]or the immediate future: our best hope is, I think, that we can keep the incidence of infection down to ‘spot fires’, to limited ‘cells of SARS-CoV-2 terrorism’. Whatever happens, many lives will have been saved.”

Speaking to the University of Melbourne’s Pursuit, Professor Doherty agreed that trialling existing drugs would potentially mean a faster solution for the pandemic.

“I think it’s very likely we’ll get to good drugs even quicker than we’ll get to a good vaccine,” he said.

GROWING AND SHARING THE VIRUS
In January 2020, Doherty Institute scientists became the first outside China to grow the 2019 novel coronavirus (COVID-19) in cell culture, and the first to share the virus with other labs around the world. They successfully grew it from a patient sample, which provided international laboratories with crucial information.

The sample had arrived at The Royal Melbourne Hospital’s Victorian Infectious Diseases Reference Laboratory (VIDRL) at the Doherty Institute.

The breakthrough allowed accurate investigation and diagnosis of the virus globally. Chinese officials had released the genome sequence, but having the real virus allowed scientists to validate and verify all test methods and compare their sensitivities and specificities. This was a game changer for diagnosis.

The Royal Melbourne Hospital’s Dr Julian Druce, who is the Virus Identification Laboratory Head at the Doherty Institute, said the virus was used as positive control material for Australia’s network of public health laboratories, and shipped to expert laboratories working closely with the World Health Organization (WHO) in Europe.

Doherty Institute Deputy Director Dr Mike Catton said possession of a virus isolate extended what could be achieved with molecular technology. It could also be used to generate an antibody test that detects the virus in non-symptomatic patients who were unaware they had it.
An antibody test will enable us to retrospectively test suspected patients so we can gather a more accurate picture of how widespread the virus is, and consequently, among other things, the true mortality rate,” Dr Catton said. “It will also assist in the assessment of effectiveness of trial vaccines.”

MODELLING A RESPONSE
In February 2020, a collaboration of epidemiologists from around Australia, led by the Doherty Institute were asked by the Commonwealth Government to model the impact of COVID-19 on Australia’s healthcare system, to inform transmission reducing measures and health system preparedness.

Released in April, the modelling was based on preparedness scenarios to inform planning and actions taken to slow the spread and prepare the health system. The results were not predictions.

Led by Doherty Institute and University of Melbourne experts including Professor Jodie McVernon and Professor James McCaw (BSc (Hons) 2001, PhD 2005), the work was used by the Australian Government in its public health response to COVID-19. Their draft manuscript found that an unmitigated COVID-19 epidemic would dramatically exceed the capacity of the Australian health system, over a prolonged period.

“Overlaid social restrictions will need to be applied at some level over the course of the epidemic to ensure that systems do not become overwhelmed, and that essential health sector functions, including care of COVID-19 patients, can be maintained,” it found. “Attention to the full pathway of clinical care is needed to ensure access to critical care.”

TRIALLLING EXISTING DRUGS
Quickly finding an effective treatment for COVID-19 is paramount but comes with many challenges.

As COVID-19 is a ‘new’ disease, there are no treatments with established effectiveness. However, there are multiple treatment options, and combinations, that could be effective.
The antiviral drug remdesivir has shown to be effective in reducing the time to recovery, and is now considered the standard of care for patients in hospital with hypoxia (low oxygen levels). In addition, dexamethasone – a steroid agent – has been shown in a large overseas trial to reduce mortality of patients and is being broadly used as part of standard of care in hospitals. Also in April, Monash Biomedicine Discovery Institute (BDI) led a collaborative study with the Doherty Institute that showed an anti-parasitic drug killed SARS-CoV-2 within 48 hours.

The BDI’s Dr Kylie Wagstaff led the study, in which scientists showed that the drug, Ivermectin, stopped the SARS-CoV-2 virus growing in cell culture within 48 hours. Ivermectin is an FDA-approved anti-parasitic drug that has also been shown to be effective in vitro against a broad range of viruses including HIV, Dengue, Influenza and Zika virus.

Convalescent plasma has been introduced to the Australasian COVID-19 Trial (ASCOT) and Randomised, Embedded, Multi-factorial, Adaptive Platform Trial for Community-Acquired Pneumonia (REMAP-CAP) clinical trials in a bid to identify the best strategy to treat patients hospitalised with COVID-19.

As part of the immune response, people recovering from COVID-19 can develop antibodies targeting parts of the SARS-CoV-2 virus. These antibodies are contained in the liquid part of the blood, the plasma, and can be given to patients newly infected with COVID-19 via plasma transfusion, potentially resulting in more rapid control and clearance of the virus.

Led by Associate Professor Steven Tong, (MBBS (Hons) 1998) a Royal Melbourne Hospital infectious diseases clinician and co-lead of clinical research at the Doherty Institute, ASCOT attracted generous philanthropic support. With its first site at The Royal Melbourne Hospital, it planned to recruit patients at more than 70 hospitals in every state and territory, plus 11 hospitals in New Zealand.

Professor Lewin said the ASCOT aimed to test whether using a combination of existing drugs could prevent patients needing a ventilator in the intensive care unit. This would ultimately save lives.

The Doherty Institute also made a significant contribution to the REMAP-CAP, another COVID-19 platform for evaluating the efficacy and safety of particular drugs in a clinical setting.

**MAPPPING THE IMMUNE SYSTEM RESPONSE**

One of the early Doherty Institute breakthroughs that gained significant international attention was the successful mapping of the immune response from one of Australia’s first COVID-19 patients, demonstrating the body’s ability to fight the virus and recover from the infection.

Doherty Institute researchers conducted four blood tests on an otherwise healthy woman in her 40s, who presented with COVID-19 and had mild-to-moderate symptoms requiring hospital admission.

The detailed immune response report – a first for COVID-19 – was published in *Nature Medicine*.

The research team was able to act rapidly thanks to SETREP-ID (Sentinel Travellers and Research Preparedness for Emerging Infectious Disease), led by Royal Melbourne Hospital Infectious Diseases Physician Dr Irani Thevarajan at the Doherty Institute.

SETREP-ID is a platform that enables a broad range of biological sampling in returned travellers. “We already had ethics and protocols in place so we could rapidly start looking at the virus and immune system in great detail,” Dr Thevarajan said. “We now plan to roll out SETREP-ID as a national study.”

Working with University of Melbourne Professor Katherine Kedzierska, a Doherty Institute laboratory head and world-leading influenza immunology researcher, the team’s COVID-19 immune response work might be the secret to finding an effective vaccine.

“We showed that even though COVID-19 is caused by a new virus, in an otherwise healthy person, a robust immune response across different cell types was associated with clinical recovery, similar to what we see in influenza,” Professor Kedzierska said.
THE EFFORT TO DEVELOP A VACCINE

A vaccine has widely been described as a silver bullet in the COVID-19 fight, but the path to its success is not without its hurdles. Normally a complex and lengthy process, Doherty Institute researchers were at the global forefront as efforts to develop a vaccine accelerated across the world.

In May 2020 they contributed to a Rapid Research Information Forum (RRIF) report on promising vaccines for COVID-19. Convened and chaired by Australia’s Chief Scientist, Dr Alan Finkel AO, it was led by the Australian Academy of Science and supported by a collaboration of participant organisations.

The forum answered pressing questions from Ministers and other key decision makers, and supported the Chief Medical Office, the Australian Health Protection Principal Committee, and the National COVID-19 Coordination Commission. The RRIF report contained the latest vaccine developments nationally and globally.

It found that technological advancements had enabled the rapid sequencing of the SARS-CoV-2 genome and provided essential groundwork for a globally effective vaccine. Another challenge was the possibility that the virus would mutate and render a vaccine ineffective.

The contributing authors were Professor Peter Doherty AC, Professor Dale Godfrey (Department of Microbiology and Immunology) and Professor Damian Purcell (BSc (Hons) 1983, PhD 1988) (Department of Microbiology and Immunology).

Despite many challenges, including the lack of any human coronavirus vaccine, Australian experts are positive a COVID-19 vaccine will be produced and possibly in our own backyard. Professor Ian Frazer AC (MD 1988), a Brisbane-based immunologist who co-created the HPV Cervical Cancer vaccine said, "It very well could be Australians who beat this thing."

Professor Doherty agreed. “We’ve got really good science here,” he said. “We’ve got some really good people. In fact, I don’t think I’ve really appreciated how good they are until now.”

SEQUENCING GENES TO FIND ANSWERS

In late May 2020, Doherty Institute researchers announced they had used whole genome sequencing to identify genetic mutations in Victorian COVID-19 cases and pinpoint clusters and transmission networks. This could also help limit the spread of the virus.

Whole genome sequencing of pathogens in real-time is an important tool in managing public health responses to infectious disease outbreaks. The team included researchers from the Doherty Institute’s public health laboratories and the Victorian Department of Health and Human Services (DHHS).

University of Melbourne’s Professor Benjamin Howden, Director of the Microbiological Diagnostic Unit Public Health Laboratory (MDU-PHL) at the Doherty Institute, said they sequenced a large number of Victoria’s cases. “We found that most of Victoria’s cases were imported with limited onward transmission,” Professor Howden said.

“Sequencing allowed us to identify large clusters from social venues, healthcare facilities and cruise ships, and, importantly, see how enforced social restrictions impacted transmission. Finally, we were able to demonstrate how the application of genomics will become critically important to rapidly identify SARS-CoV-2 transmission chains as social restrictions ease globally.”

WHERE TO NOW?

The COVID-19 pandemic continues to test Australia’s scientific community, political leaders, and the public. Australia’s response, led by organisations such as the Doherty Institute and other University of Melbourne experts, has been widely considered first class.

As we begin to adapt to our new normal, our world class researchers and clinicians continue to work on possible treatments, a vaccine and other ways to help people whose lives were affected by the pandemic.

Keep up to date with the work of the Doherty Institute by visiting:

www.doherty.edu.au

Or tuning into Life Beyond Coronavirus: The Expert View

mdhs.unimelb.edu.au/engage/alumni#covid-19
Associate Professor Steven Tong (MBBS (Hons) 1998) is a Royal Melbourne Hospital infectious diseases clinician and co-lead of clinical research at the Doherty Institute.

WHAT DO YOU DO AS A CLINICIAN RESEARCHER?
As a clinician researcher, I am involved in teams that directly look after patients with infectious diseases, such as COVID-19, and I also conduct research through clinical trials to improve treatments for patients with infectious diseases. For instance, I’m currently involved in a clinical trial investigating treatment effectiveness for patients with COVID-19 and another for patients with golden staph bloodstream infections.

I am currently leading the Australasian COVID-19 Trial (ASCOT), which is a clinical trial for patients hospitalised with COVID-19. As it’s a ‘new disease’, there are currently no treatments with established effectiveness for COVID-19. However, there are multiple treatment options and combinations that may be effective. The aim of ASCOT is to generate clinical evidence about treatment options for COVID-19 that can be applied during the pandemic to reduce mortality or the need for mechanical ventilation in hospital in patients who are not yet critically ill with COVID-19.

WHAT DO YOU SEE AS THE BIGGEST CHALLENGE OF THE COVID-19 RESPONSE?
While there are many challenges, two come to my mind in particular. The first is the rapid development and testing of a vaccine. The second, which is in my specific area of expertise, is finding an effective treatment for patients within the safe and ethical framework of clinical trials where we can learn by doing.

The traditional approach to discovering how a new treatment works when tested in humans is to cycle through several, often lengthy, phases of clinical trials. The study must assess safety of the proposed treatment (Phase 1) and then demonstrate that the new treatment is likely to be effective using a small number of people (Phase 2). Finally, it must confirm that the treatment is effective in a much larger number of people (Phase 3).

This process may take many years. Even then, it may fail to show that the new treatment is effective. Given the rapid spread and increase in detected COVID-19 case numbers across the globe, the challenge is to design trials so that we can identify effective treatments and start providing them to patients as quickly as possible in the face of uncertainty. I co-authored an article on the challenge of clinical trials that ‘learn as they go’ for anyone who’d like to know more.

OUTSIDE OF COVID-19, WHAT ARE YOUR RESEARCH INTERESTS?
I’m a principal investigator in the SNAP trial, which is a clinical trial for golden staph bloodstream infections. It aims to improve treatment outcomes for patients with these common but deadly infections. I’m also interested in understanding the epidemiology and improving treatments for patients with skin infections due to Group A Streptococcus (Strep A), hospital infections, Indigenous health, viral hepatitis and respiratory infections such as influenza.

WHAT ORIGINALLY ATTRACTIONED YOU TO THE FIELD OF INFECTIOUS DISEASES?
I was originally attracted to the field through the contribution of wonderful people and mentors in the area and the intellectual challenge that infectious diseases pose. They do not discriminate, affecting all body systems when there is an interaction between the human host and the infecting pathogen. Another primary driver for me was a desire to support people on the margins of society, including migrants, refugees and LGBTQI communities.

WHEN YOU’RE NOT AT WORK, WHAT’S YOUR FAVOURITE #STAYATHOME ACTIVITY?
Running and walks with my family.

IF THE PANDEMIC WAS MADE INTO A FILM, WHO WOULD PLAY YOU IN THE MOVIE?
Matt Damon
BUSINESS COMMUNITY STEPS UP

The fight against COVID-19 will be a long one. As life starts to feel as though it’s getting back to normal, the search for treatments – and ultimately a vaccine – goes on.

In normal circumstances, clinical trials and testing is costly and can take years. With the global impact of COVID-19 increasing, significant funding is needed to fast-track research and deliver treatments to patients as soon as possible.

The work of the Doherty Institute has been generously supported by a number of organisations and individuals. Without this support, much of the progress made to date would not have been possible.

“COVID-19 has had a devastating effect on Australia and the world - this is the biggest thing to hit the globe since 1945 and it will have a lasting impact for years to come,” said Terry Snow, founder of the Snow Medical Research Foundation (Snow Medical). “Government has stepped up – and now is the time for the community to play a role.”

BHP Foundation CEO James Ensor echoes this sentiment, saying that the devastating global impact of the COVID-19 pandemic requires a collective response from governments, businesses and the global philanthropic sector.

“As a global community we have to come together,” he says. “We all have a responsibility to play our part in finding solutions.”

Find out more about how you can support the COVID-19 fight at www.doherty.edu.au

Since the COVID-19 crisis unfolded the Doherty Institute has received major support from the following individuals and organisations.

Jack Ma Foundation  
The a2 Milk Company  
BHP Foundation  
The Pratt Family Foundation  
Minderoo Foundation  
Macquarie Group Foundation  
Paul Ramsay Foundation  
TikTok  
and many other generous donors.
While the COVID-19 pandemic was unfolding here in Australia, many of our international alum were dealing with similar, and in some circumstances, much more challenging times overseas.

Associate Professor David Lye (MBBS 1996) is the Director of Research and Training at the National Centre for Infectious Diseases in Singapore and watched the crisis unfold around him. We spoke to Associate Professor Lye to get his insights on what life in Singapore was like at the height of the pandemic.

WHAT DREW YOU TO INFECTIOUS DISEASE RESEARCH AND WHAT DO YOU LOVE ABOUT IT?
Infectious diseases are intellectually stimulating as there are myriads of microbes, new pathogens emerge such as COVID-19 and old ones evolve such as carnapenemase-producing gram negative bacteria rendering last-line antibiotics (carbapenems) useless.

WHAT DOES A TYPICAL DAY LOOK LIKE FOR YOU?
I still have clinical duties so some days will start with a ward round. There are often many research-related meetings that fill up most parts of my days.

WHAT WAS THE FEELING IN SINGAPORE WHEN THE COVID-19 PANDEMIC WAS UNFOLDING?
Singapore was well prepared with a rule book set up since SARS. However, over 90 per cent of current COVID-19 cases in Singapore have occured in dormitories for foreign workers. This has consumed a lot of the national effort to contain the disease and has led to rethinking of dormitories for foreign workers in the future to mitigate risk of rapid spread of infectious diseases. Fortunately, death from COVID-19 in Singapore remains very low (27 cases out of 56,852 cases as of 2 September 2020). COVID-19 infections outside of the dormitories remain low at 2241 cases.

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AN OVERSEAS PERSPECTIVE

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HOW IS SINGAPORE FARING NOW AND WHAT IS THE FEELING FROM THE WIDER COMMUNITY?
Singapore has started easing lockdown. New dormitories are being built. Capacity of testing has been enhanced. Local cases remain low in numbers. Schools are slowly reopening. We are still learning how to live in the post-COVID-19 era, developing solutions about new ways to work, socialise and hopefully to travel in the medium term.

HOW HAS YOUR ROLE CHANGED SINCE COVID-19?
Since COVID-19, all research activities have been stopped and re-directed to support COVID-19 research. My pre-pandemic research focuses on dengue, antibiotic resistance and clinical trials. As director of research at NCID, I have also taken on the role of national coordinator of COVID-19 research under a national COVID-19 research workgroup with clinicians from all public hospitals in Singapore as well as scientists from universities and research institutes.

WHAT KEEPS YOU AWAKE AT NIGHT?
What if there is no effective vaccine and immunity from COVID-19 is not long-lasting?

WHAT GIVES YOU HOPE?
The speed at which medical research has responded to address treatment of COVID-19.

HOW DO YOU THINK COVID-19 WILL CHANGE THE WAY YOU WORK IN THE FUTURE?
The National Centre of Infectious Diseases is established primarily to deal with a pandemic outbreak such as COVID-19. We were not sure when it would occur. So we are now doing what we were established to do. The collaborative framework governing COVID-19 research sets us in good stead to develop a national infectious disease research collaboration.

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The 3D printing space thrives on open source collaboration, and is proving ideal for designing and prototyping customised solutions for medical personal protective equipment.

As an intensive care specialist at the Royal Melbourne Hospital, Dr Christian Karcher (GCertClinTeach 2017, GDipClinEd 2019) works at the coalface of the COVID-19 pandemic. After he realised that there could be a shortage in the supply of face shields, Dr Karcher turned to 3D printing for a solution.

“I saw a tweet from the UK where there was a group printing the frames of those face shields,” he says.

“So that night I Googled 3D printing in and around Melbourne and sent the same email to a number of people to try and get some contacts.”

One of those people was Eric Jong (BFA Hons 2017, MFA VisArt 2020) from Research Computing Services at the University of Melbourne, where he teaches 3D printing and computer-aided design.

“I happened to know people who could help because of my job at the University, so I immediately went to see them,” says Mr Jong.

The next morning, Dr Karcher was looking at a photo of a face shield that had been 3D printed by the team. By that afternoon, he was holding a prototype, and he and Mr Jong were discussing alterations for the next iteration.

“I was absolutely stunned,” says Dr Karcher. “I still can’t believe it.”

Unbeknown to them both, the Maker Spaces team from the Melbourne School of Design had begun testing designs in the days before, driven by news of the crisis abroad.

Along with Mr Jong, Ryan Pennings and JD Hohmann (BSc 2018) from Maker Spaces altered the design to improve the fit of the shield. They also made the design stackable so that up to 1,800 could be printed overnight by Maker Spaces and the Melbourne School of Engineering 3D Innovation Centre if necessary.

The 3D printed face shields are meant to be a stopgap solution, able to be assembled using office supplies. The frames are 3D printed in plastic and then put together using rubber bands, with A4 or A3 plastic sheets as shields.

Their design was even picked up by the Metro North Hospital and Health Service in Queensland. They were originally hoping to collect 3,000 frames, and the design was made public in an effort to crowdsource them. Over 15,000 face shield frames were collected in just three weeks.

“I’m perfectly happy with them,” says Dr Karcher of the 50 prototypes made for him.

Similar 3D printing initiatives have sprung up all over the globe. Associate Professor Jason Chuen (MBBS 1996, PGDipSurgAnat 2000) and Dr Jasamine Coles-Black (BBiomed 2012, MD 2016, GDipSurgAnat 2018) from the Austin Hospital’s 3DMedLab helped establish COVID SOS, an online forum for 3D printed solutions to clinical problems following the pandemic.

“Our vision is to have everyone in the Australian healthcare space linked up, and for no-one to go without PPE,” says Dr Coles-Black.
One of those projects was a respirator cage that prevents surgical gowns from being sucked into powered air-purifying respirator (PAPR) machines. The machines are commonly worn by anaesthetists and surgeons to lower their risk of infection while performing aerosol generating procedures.

Teams from the Austin Hospital, Maker Spaces, Melbourne Brain Centre Imaging Unit (MBCIU) and the Melbourne School of Engineering CT-scanned a PAPR machine and designed several prototypes. Eventually, the Maker Spaces design proved successful.

The invention was dubbed “the spider”, and 86 cages were printed. The entire process took just three days, from problem to print.

“People are putting their knowledge and experience together to deliver a solution,” says Gary Mather, Engineering Workshop Manager in the Melbourne School of Engineering.

It’s evident that these longstanding networks and friendships between clinicians, designers and engineers have been key in these rapid responses.

Researchers and engineers at the University have also been working with clinicians to develop isolation hoods, low-cost ventilators and reusable N95 masks and to 3D print COVID-19 testing swabs.

Like many new technologies, the 3D printing space has thrived on open source collaboration and sharing. The technology is ideal for designing and prototyping customised solutions quickly. For underserved communities that will be especially affected by global PPE and medical supply shortages, 3D printing can be a lifeline.

“What COVID-19 is really drawing to the fore is that 3D printing can be used to prototype and rapidly manufacture small batches. If we need it tomorrow, 3D printing is a key way to do that,” says Professor Grayden.

Yet with 3D printing rapidly becoming commonplace, regulators are struggling to keep up. Additionally, people with 3D printers at home are keen to participate in these initiatives, raising further questions about safety, regulation and intellectual property.

“It’s definitely something [to consider] going forward if something like COVID-19 were to hit again. We don’t want to be in a situation where regulatory and administrative roadblocks prevent a validated solution from being effectively delivered to the front lines within an acceptable timeframe,” says Dr Coles-Black.

COVID-19 is changing life as we know it in many ways, and the healthcare sector is not immune to these changes. Stringent efforts to flatten the curve in Australia mean that some of the urgency around these projects has died down.

“There is that ethical consideration. We took an oath to look after our patients and our colleagues. We’re trying to do the best we can. There needs to be that flexibility in the system.”

However, 3D printing has created a raft of innovative healthcare solutions in response to the pandemic. It has changed traditional models of innovation and manufacturing, and there’s no telling what it will add to healthcare next.

This article was first published in Pursuit by Kathy Zhang (1 May 2020).

Pursuit is the University of Melbourne’s leading multi-media platform, showcasing the latest research and opinion from world-leading experts.

To read more pursuit articles head to: pursuit.unimelb.edu.au
If 2020 has taught us anything, it’s how to adapt to uncertain environments. This is particularly true for our medical and healthcare workforce.

While we hope COVID-19 is soon behind us, the 21st century will continue to need medical graduates who thrive in difficult conditions and can lead in a rapidly changing world. That’s why we are redesigning the Doctor of Medicine (MD) program.

Launching in 2022, the new program will allow students to start clinical experience and research much earlier and provide more flexible study options. Options to learn extra skills or take on a joint degree will help students tailor their medical course to their passions, and produce collaborative, multiskilled doctors who are ready for an ever-changing world.

COVID-19 has had a significant impact on the MD program this year, with the suspension of clinical placements for some students and a rapid shift to online delivery of all teaching. Professor Stephen Trumble, Head of the Department of Medical Education, believes the response to COVID-19 challenges has significantly progressed the plan for redesigning the program.

“While students learning directly from patients and their doctors will always be the focus of the course, the delivery of consistent, efficient teaching via online methods has proved to be both feasible and, in many cases, preferable to traditional large group teaching,” he says.

“Moving much of the core content to online delivery will increase flexibility for students and create opportunities for them to explore more confidently, discovering areas of particular interest and forming a closer connection with their mentors.”

There’s a lot of work still to do over the coming 18 months, but the challenges of 2020 have allowed the team to learn what does and doesn’t work online, which will be increasingly important as we adapt to the new model.

You can learn more about the new MD online: medicine.unimelb.edu.au/news-and-events/towards-2022-the-new-doctor-of-medicine
ARMY OF STUDENTS STEPS UP

While hospitals started prepping for the potential wave of coronavirus patients, stockpiling PPE equipment and setting up makeshift ICU wards, thousands of medical students across the country answered the call to step up and help fight COVID-19.

Back in March, when our numbers were looking bleak, the Victorian Government put out a call to the state's medical schools asking for assistance. They had hoped that a number of final year students may be able to join the health workforce early and relieve some of the pressures on frontline doctors as Australia hurtled towards a peak in COVID-19 infections by May or June.

When the Melbourne Medical School put out the call, we received an overwhelming response from eager students willing to learn and help where they could. Within 24 hours a total of 1388 people had signed up. This astonished the University's head of medical education, Professor Steve Trumble, who said that the total enrolment of medical students was only around 1389, including one student who "never reads my emails".

Shipraa Kaul (BBiomed 2016), 25, who is currently finishing her final year was one of the students who responded. She said she was happy to be able to contribute and learn from the experience.

"I felt that it was a great opportunity for me to try and give back to the health system and reduce the load on other healthcare workers in case they needed it on the front line."

The willingness of our students to aid in times of need is something we are extremely proud of and shows that the future of our health sector is in good hands.

STICKING TOGETHER IN TIMES OF CRISIS

Daniel Lamanna is a Canadian international student currently in his third year of the Doctor of Medicine course based at the Epworth Clinical School. Along with other student volunteers, Daniel helped to set up a Medical Student Support Initiative to ease the burden of home and life responsibilities for frontline health workers during the pandemic.

"I had just recently completed my obstetrics and gynaecology rotation before the COVID-19 pandemic arrived in Australia, and prior to that at the beginning of the year, I completed my clinical rotation in paediatrics at the Royal Children’s Hospital (RCH). I have had a wonderful time at the RCH where I have encountered many passionate and charismatic leaders and clinicians and have discovered a love for paediatric orthopaedics. Although the learning experience during the more recent term was shifted to a completely online model, the kindness and generosity of all clinicians – in particular Professor Gab Kovacs and Dr Grant Saffer – have afforded us students an opportunity to continue to learn and make the best during such uncertain times.

"With the help and support of many gracious and committed clinicians and medical student volunteers I have had the privilege to offer support to frontline healthcare workers.

"One initiative that was adopted from my colleagues back in Canada was the establishment of a Medical Student Support Initiative, with the primary aim of pairing medical student volunteers with healthcare professionals to help ease the burden of home and life responsibilities – childcare, cooking, and pet care to name a few. By relieving the healthcare professionals of some of their non-clinical duties, the objective is to free up time and mental energy for their continued efforts in mitigating the effects of COVID-19.

"Additionally, I have also had the privilege to work under the guidance and leadership of Professor Fiona Russell, Dr Wonie Uahwatanasakul, and Eleanor Neal (BSc 2005, BA (Hons) 2005, MArts 2006, MPH 2015) in my role as the Medical Student Coordinator of the COVID-19 Kids Evidence Update – a joint initiative between The Royal Children’s Hospital and The Department of Paediatrics at The University of Melbourne. This weekly publication summarises and highlights critical global research in a variety of medical specialties in the context of COVID-19. This publication may then be used to guide and support the clinical decision making of those healthcare professionals working on the front lines who are facing unique and complex clinical challenges.

"In a fascinating way, it appears that people grow closer to one another when chaos presents itself – physiology would argue that we’re wired to either fight or take flight in times of extreme stress or need. It’s apparent to me that we have chosen as a community to fight together, and for this, I am quite proud of my colleagues and of the medical leadership for taking on this responsibility."
Medical students have always volunteered to help during health crises and disasters, and research suggests that pitching in with due care is good for them.

**IN THE FACE OF THE WORST PANDEMIC OF OUR GENERATION WHAT SHOULD MEDICAL STUDENTS BE DOING TO HELP STRETCHED HEALTH SYSTEMS? SHOULD WE BE JUMPING IN AND HELPING? WILL WE JUST GET IN THE WAY? DO MEDICAL SCHOOLS HAVE A DUTY OF CARE TO KEEP US OUT OF CLINICAL PLACEMENTS?**

From the evidence of past disasters and major health alerts, medical students appear to have actually thrived on assisting when needed most.

The Spanish flu pandemic of 1918-19 killed at least 50 million people globally. Medical students in the United States were recruited to assist with the increasing number of patients.

As a third-year medical student at the Pennsylvania School of Medicine during the pandemic, Dr. Isaac Starr recounts being asked to perform tasks ranging from assembling hospital beds to making advanced medical decisions for patients. All of this was carried out after having had only one preparatory lecture on influenza.

At the peak of the epidemic, his hospital had a mortality rate of 25 per cent per night and they were unable to remove bodies of the deceased fast enough. Medical students became impromptu leaders, directing church volunteers and managing patients without even being able to supply basic treatment such as oxygen therapy due to equipment shortages.

In 1989, at the Hillsborough Football Ground in the UK, 96 spectators at an FA Cup match were crushed to death by crowds. Many fifth and sixth-year students at the nearby Sheffield Medical School were highly involved in the event, either by aiding victims in clinical placements or providing support through outside agencies.

Interestingly, according to a study many students who weren’t involved in caring for victims were given the opportunity to help but made the conscious decision to not attend placements. Many reasoned this was due to the perception that they would be a hindrance (the hospitals already had sufficient staff), or that they felt they lacked enough useful skills for the situation.

Some of these students later reported feeling guilty that they hadn’t helped more.

After the devastating terrorist attacks on New York’s World Trade Centre on September 11, 2001, medical students from the Mount Sinai School of Medicine (MSSM) helped in the city’s disaster response efforts. Student volunteers manned a crisis hotline almost without any supervision, organised fundraising, volunteered with counselling victims and families, as well as being involved in some direct clinical work.

**A later study found that among students who had volunteered to help, those involved in clinical work had the fewest psychological symptoms after the disaster and a greater sense of empowerment.**

In contrast volunteers who helped more indirectly – like assisting in fundraising or working on the crisis hotline - showed significantly higher rates of psychological symptoms in the weeks following the attack.

These findings suggest that medical schools should perhaps encourage students to participate in relief efforts where they can be directly supervised and supported in this period of high emotional stress, such as aiding in clinical tasks.

The Tōhoku earthquake and tsunami offshore of Japan in 2011 left more than 22,000 people dead or missing. Medical students from Fukushima Medical University were involved clinically in responding to the disaster, despite many of them being personally affected. In addition to clinical tasks, students aided in food distribution, clearing debris and transferring patients.

Medical students who were willing and able to respond to the disaster became a key part of the city’s emergency response plan. Despite widespread radioactive contamination from the damaged nuclear power plant, as well as food and fuel shortages, more than a quarter of students aided in the relief effort.

Studies examining students’ experiences after being involved in the disaster found that those students who had actively sought to become involved with relief efforts were more likely to experience Post Traumatic Growth – a positive psychological change after experiencing difficult life circumstances.

Volunteer students also reported a greater desire to become physicians compared to their colleagues who didn’t take part in the relief effort. Importantly, volunteer students showed no increase in distressing psychological symptoms when compared to their colleagues who hadn’t volunteered.

During the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) coronavirus, medical schools in Hong Kong shut down and banned patient contact after 17 medical students were diagnosed with the virus following exposure during clinical placements. After more than a month of being off the wards, medical students were only allowed to return when wearing ‘astronaut-like’ personal protection equipment.

Similarly, during the 2015 outbreak of Middle East Respiratory Syndrome (MERS) coronavirus in South Korea, the medical school at the epicentre of the outbreak chose to discontinue medical student clinical rotations at the hospital.

As the outbreak continued, the medical school chose to bring forward the summer break, organised remote lectures and ran problem-based learning tutorials through platforms such as Skype. Possibly as a result of these measures, none of the 125 students contracted the virus.
HOW THEN SHOULD STUDENTS AND MEDICAL SCHOOLS RESPOND TO COVID-19?

Although large numbers of students are likely to volunteer in their country’s time of need, with an already stretched system, will these students be able to be adequately trained and protected? Hospitals around the world already face shortages of widespread personal protective equipment.

Ethically, medical schools face a trade-off between an individual student’s freedom to volunteer and the school’s own duty of care.

In Australia, it appears we are placing a greater weight on autonomy, with individual medical schools having plans to include medical students in clinical roles to assist in our response to the COVID-19 pandemic, in stark contrast to how some countries responded to the SARS and MERS outbreaks.

Although these roles are voluntary and will have no impact on student’s course progression, from past disasters we know that medical students will often feel a strong sense of duty to help when needed.

Ultimately the final decision should rest with the students themselves. Medical school education is based around clinical experiences, with students being exposed to a level of risk every time they interact with patients.

This is an inherent component of our chosen profession and through respecting students’ autonomy, hospitals will be rewarded with a dedicated group of individuals who will not only provide much needed assistance, but gain invaluable experience that will stay with them for the duration of their careers.

This article was first published in Pursuit by Kieren Fahey (BSc 2016) and final year medical student.

Pursuit is the University of Melbourne’s leading multi-media platform, showcasing the latest research and opinion from world-leading experts.

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VENTILATION HOODS FOR ICU BEDS PROTECTING HEALTHCARE WORKERS

While we may not be able to see it, whenever we speak, cough or sneeze, we expel tiny droplets, into the air. In these droplets COVID-19 can spread and rapidly infect all who come into contact.

Healthcare workers and those working with COVID-19 infected patients are particularly at risk. In countries like Spain, infection rates of healthcare workers are as high as 15 per cent.

Lead researcher and fluid mechanics expert from the University's Melbourne School of Engineering, Professor Jason Monty (BE (Mech&ManufEng)(Hons) 2000, PhD 2009), was first approached by Associate Professor Forbes McGain (MBBS 1996, PGDipP&CCareEcho 2009, PhD 2016), an intensive care specialist at Western Health, back in March with ideas about how healthcare workers could be better protected by individually isolating critically ill patients with COVID-19.

Working together with Western Health, university researchers designed a private ventilation hood for hospital beds to contain the droplet spread of COVID-19 and protect healthcare workers.

The transparent, movable personal ventilation hood sucks air away from the patient while creating an effective droplet containment barrier.

The device is also large enough to accommodate other medical equipment that might be attached to the patient.

“The hood helps to confine bigger droplets to a known area around the patient while smaller droplets are sucked away through an attached ventilation system and filtered out through a high-efficiency particulate air filter,” Professor Monty said.

The hood was prototyped and tested with a team of fluid dynamics researchers, in consultation with intensive care specialists, nurses and other infectious disease experts at Western Health to ensure that its application is practical, hygienic, effective and safe.

Associate Professor McGain, who is also an honorary with the University of Melbourne's Centre for Integrated Critical Care, said that during the current pandemic, doctors, nurses and allied health professionals are working under increasing pressure and risk of cross-contamination.

“Our testing has shown that the hood allows healthcare workers to interact with their patients and get a visual sense of their condition through the clear plastic, but with a reduced risk of infection,” he said.

Western Health Chief Executive Russell Harrison said COVID-19 was putting unprecedented pressure on the healthcare system.

“It’s great that Western Health and the University of Melbourne have been able to work in partnership, and in such an agile way, to create a device to help protect healthcare staff working on the front line,” Mr Harrison said.

Learn more about the collaboration and the ventilation hoods here: medicine.unimelb.edu.au/visit/chiron
Associate Professor Luke Burchill (MBBS (Hons) 1999, PhD 2013) is Australia’s first Aboriginal cardiologist. He is a Yorta Yorta/Dja Dja Warrung man who grew up in Mooroopna, near Echuca. He is based at the Royal Melbourne Hospital and is a clinician scientist with the Department of Medicine and Radiology.

Right now, my worlds have collided with COVID-19 and Black Lives Matter. The protests have drawn attention to what Aboriginal and Torres Strait Islander people have always known – that the intersection between racism and adverse life outcomes is real. The systems that perpetuate these inequities need to be everyone’s concern – not only those who currently fall between the cracks.

I was fortunate to grow up on country. Mooroopna has a large Aboriginal community. I had a lot of uncles, aunties and cousins. My inspiration to study medicine and then cardiovascular (CV) medicine came from both my grandmother Iris, who had paraplegia and diabetes, and my mother Marlene (MSW 2003), who completed a Master of Social Work in her 50s and passed on an incredible work ethic. I learned early on that I was destined to walk two roads. My cousins would joke that I was a Gubbarigini – meaning a white blackfella. With an English father and an Aboriginal mother, I have fair skin but Aboriginal blood running through my heart. I have often felt like a fly on the wall because I’m not visibly Aboriginal.

The bush roads of my Yorta Yorta childhood eventually became the city roads of my adulthood. I was inspired by the history of innovation and the ability to save lives with new technologies including pacemakers, implantable valves, coronary stents, mechanical hearts and heart transplantation. I completed a PhD and travelled overseas to undertake postdoctoral fellowships that took me from the bench to the bedside to the population. I trained with world-leading clinicians and scientists in Canada and the USA.

Standing amidst the marble and glass of the Cleveland Clinic – arguably the world’s leading centre for CV medicine – I had to pinch myself that I was there. But as time went on, I also realised how far removed I was from the real world. I saw firsthand that those benefiting from latest innovations were wealthy and insured. I realised that to achieve widespread improvement in health outcomes we needed to focus less on mechanical hearts and transplants and invest more in how people access and receive quality healthcare.

More than 50 per cent of Aboriginal and Torres Strait Islander people are not screened for CV disease. Of those who are screened, only 50 per cent receive guideline-based treatment. Among those who make it to hospital we know that Indigenous people are significantly less likely to have a coronary angiogram or to have blocked coronary vessels fixed. And the question for all of this is, “Why?” My research seeks to answer this question. We need to – and we can – close the gap through data-driven research.

Most Aboriginal health research focuses on Aboriginal people living in remote areas. This might explain the missed opportunities to improve CV outcomes. Eighty per cent of Aboriginal people live in cities, compared to seven per cent in remote areas, yet accounted for just 11 per cent of research from 2004-2009.

At 45, I have already outlived many other Aboriginal men and women who have died from heart disease. Indigenous Australians between the ages of 35-44 – our emerging elders – are nine to 12 times more likely to die from cardiovascular disease than their non-Indigenous counterparts. It’s the leading cause of death and the largest contributor to the health gap for Aboriginal Australians. We need our elders to be strong so that they can pass those stories down.
INDIGENOUS EYE HEALTH IN FOCUS
BY MEEGAN WAUGH

Twenty-twenty was to be a watershed year for the University’s Indigenous Eye Health team. Then COVID-19 hit, and everything changed. But while it may not be the year of milestones they were expecting, their goals remain within sight.

When Laureate Professor Hugh Taylor AC (BMedSc 1970, MBBS 1971, GDipOphth 1975, MD 1979, Hon LLD 2012) began doing eye tests in remote communities, it wasn’t the problems that most surprised him. Instead, he discovered that many Indigenous Australians had vision that was nothing short of remarkable.

“I found that the average vision of healthy Aboriginal adults was 6/2.5. That means they could read at 6 metres what most people could only read 2.5 metres away,” he says.

“I’d never seen anybody report vision as good as that.”

Despite this, due to a range of environmental and systemic factors, Indigenous Australians experience much higher rates of preventable vision loss than the rest of the population. Professor Taylor began exploring this disparity in the 1970s, while working with the late Fred Hollows AC to provide eye care to Aboriginal and Torres Strait Islander people around the country.

After decades of watching public health campaigns try and fail to make meaningful improvements, he decided enough was enough.

CLOSE THE GAP FOR INDIGENOUS EYE HEALTH
Professor Taylor set up Indigenous Eye Health (IEH) at the University of Melbourne in 2008. IEH and the Centre for Eye Research Australia (CERA) conducted the National Indigenous Eye Health Survey the following year with sobering results: Indigenous Australians experienced six times more blindness than other Australians, and three times more low vision. A staggering 94 per cent of the vision loss was preventable or treatable.

“When you see that our fellow Australians, our First Nations people, are living with six times more blindness, you’ve just got to say, ‘This is not right’. To go from being so much better to being so much worse is scandalous,” says Professor Taylor.

In 2012, IEH released The Roadmap to Close the Gap for Vision, with 42 recommendations to improve Indigenous eye health in Australia.

“The patient journey was like a leaky pipe. There were lots of leaks and cracks along the pathway of care where people would fall out of the system. There weren’t one or three key things that had to be fixed – you actually had to address a whole series of them.”

One of the issues Roadmap aimed to tackle was trachoma, a preventable blinding eye infection. Trachoma disappeared from mainstream Australia over 100 years ago but persists in remote Indigenous communities.

“Australia is the only developed country to still have trachoma,” says Professor Taylor.

“It’s an unusual bacterial infection that spreads from one child’s eye to another. The key to stopping these frequent episodes of infection is to keep children’s faces clean.”

Professor Taylor’s work to eliminate trachoma spans decades, forming part of the World Health Organisation’s Global Elimination of Trachoma by 2020 (GET 2020) campaign. Progress was strong and the goal was within reach: rates of trachoma in endemic areas fell from 21 per cent in 2008 to just four per cent in 2019. This year, IEH was poised to find out whether Roadmap and GET 2020 would meet their goals.

"It was going to be such a great year for celebration and marking progress,” says Professor Taylor.

“Our work for the Global Elimination of Trachoma goes back to ’97…some of the other work goes back to 1999. We’ve been waiting for this for over 20 years.”

But, like the rest of the world, they hadn’t factored a pandemic into their plans.

COVID-19: AN UNEXPECTED CHANGE IN DIRECTION
Restrictions to slow the spread of COVID-19 have forced many to rethink the way they work. For IEH, it meant adapting their trachoma campaign to help keep remote Indigenous communities safe and healthy.

Professor Taylor, who also has a background in epidemiology, knew his team could leverage their extensive community networks to help guard against the virus.

“We said, ‘We’d better get out and do it’. We worked with community TV and community-run radio and consulted with community-controlled health organisations to make sure we were developing a message that was culturally appropriate and fitted in.”

Luckily, COVID-19 and trachoma share a common enemy: good hygiene. IEH tackled both challenges by expanding their ‘Six steps to stop germs’ trachoma campaign. The six steps became seven with the addition of ‘cough or sneeze into your elbow’.

“The emphasis on hygiene and hand washing is reinforcing our work and our work is reinforcing the COVID-19 work. The synergy there is terrific,” says Professor Taylor.

“We’ve now developed a series of health promotion materials around COVID-19, building on the existing trachoma messages. We’ve got TV, videos, material for use in schools and things like that, that really link in with COVID-19 activities in communities.”
LOOKING TO THE FUTURE
While the year hasn’t unfolded the way Professor Taylor hoped, the IEH team has much to be proud of.

“When I started off in the ’70s on this National Trachoma Eye Health Program, in some of the communities, 75 per cent of the kids had trachoma. The blindness rates were, at that time, 10 times higher. We’ve eliminated trachoma now in more than 150 communities that were at risk even a decade ago,” he says.

“Importantly, the National Coalition of Peak Aboriginal Organisations now has an equal role with governments in preparing the new approach to close the gap. At last, it is being done with Aboriginal and Torres Strait Island people, and not to them. This is part of the interaction so urgently needed, and so eloquently set out in the Uluru Statement from the Heart.

“My hope is that we can put in place long term, sustainable provision of eye health services across the country that are culturally safe and accessible and affordable, so that every Australian can get top quality eye care.”

Professor Taylor says the patient care pathways IEH have developed could have applications in many other areas of health.

“Our work is really about linking primary care with a specialist service. What works for eyes should work for ears, hearts, lungs, and kidneys. While we haven’t fixed all the issues around Indigenous health, I think those lessons learned will be very useful for some of these other areas.”

To find out more about Indigenous Eye Health at the University of Melbourne, visit:

mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/ieh
Not since the Spanish flu has Australia experienced a health crisis as catastrophic as COVID-19. The first half of 2020 has brought a united effort in Australia to minimise the impact of the pandemic; an effort that has seen Australia emerge as a world leader in this global disaster.

While some of us who have been working from kitchen tables and lounge rooms start planning our return to workplaces, many colleagues in the health sector have been on the front line of the pandemic working in hospitals, clinics and adapting to telehealth technologies. And as we settle into our new normal, we reflect on the last few months and make note of how this time has profoundly affected us, both professionally and personally.

THEN AND NOW

In university and cultural collections throughout Australia, the impact of the Spanish flu is documented through images and detailed collections of policies and newspaper articles. When looking at coverage of the current situation, the similarities are clear. On the National Museum of Australia’s website, a photograph of health workers in 1919 shows protective measures that are still being used today.

But there are many differences as well. So different to the Spanish flu pandemic 100 years ago is the presence of social media. Our ability to share our experiences of lockdown has sparked great humour and creativity; Zoom meetings have seen spontaneous inclusions of our families and pets. Although socially distanced, we’ve been able to stay connected in ways we’ve never really seen before.

We have, in our professional capacities, been addressing this crisis by creating a virtual campus, supporting our researchers and participating in and leading broader debates on health and wellbeing in the community – activities that may mark a turning point in university education and research for future generations.

Great innovation comes out of adversity. This has been the case during pandemics and conflicts throughout history, and it’s unsurprising that we have seen the same during this moment in time.

TODAY’S CRISIS, TOMORROW’S HISTORY

BY DR JACQUELINE HEALY (BA (HONS) 1977, MBA 1983, PHD 2006)

THEN: During World War 1, the University of Melbourne developed a gas mask for use in the trenches.

NOW: During COVID-19, the University of Melbourne produced 3D printed face masks. Dr Clara Moore of Royal Melbourne Hospital with a University of Melbourne 3D printed face shield.


NOW: Soap teeth. During the remote learning period, BOH 3 student Thuy Le is maintaining clinical dental hand skills and dexterity by shaping teeth using soap.


NOW: Ventilation hood designed by University of Melbourne and Western Health intensive care physician, Dr Forbes McGain (on the right) and other researchers, led by Professor Jason Monty.
TELLING OUR STORY TO FUTURE GENERATIONS

It won’t be long before we look back at this time as a pivotal moment in international and Australian history. We need to consider how we want these stories told to future generations. How has this pandemic transformed our lives? And how can we document this for future generations?

The Faculty Museums have been busy collecting material that will record the response to the COVID-19 pandemic from our community of students, staff, researchers and colleagues in the health sector.

HELP US DOCUMENT HISTORY

We would love to get your help documenting this time so we can to share with our future generations. We’re exploring questions like:

• How were we leaders?
• How were we innovative and adaptive?
• How did we deal with anxiety and uncertainty?
• How did we come together as a community?

LIFE BEFORE AND DURING LOCKDOWN

Before the lockdown, and in the wake of the deadly summer bushfires, there was a sense of foreboding. Once lockdown began, many of us were required to work from home and limit our movements throughout the community.

Do you have any items that might help us document this time? We’re particularly interested in:

• records of event cancellations (or photographs of limited attendance)
• photographs or advertisements
• posters
• videos or web seminars
• articles
• social media posts
• art works
• objects like masks and PPE
• evidence of changes to the way we work and study.

We look forward to hearing which items, thoughts and discoveries you believe should be part of the collection.

To find out more about how to make a contribution, visit:
medicalhistorymuseum.mdhs.unimelb.edu.au/covid-19-collecting
On a rainy November evening in 2019, Reunion Weekend welcomed alumni and guests from the six schools of the Faculty of Medicine, Dentistry and Health Sciences. Doctors, dentists, physiotherapists, optometrists, nurses, psychologists and many other health professionals arrived at Wilson Hall to find a scene quite different from their memories of exams and graduation ceremonies. Instead, green walls covered in flowers and lights enclosed a stage with live music (thanks to graduates of the Melbourne Conservatorium of Music), a hearty spread and waiters circulating with drinks. Guests shook off the rain and checked their umbrellas and coats. They met old friends and academic staff from across the Faculty, including Heads of Schools and Departments who joined the celebrations.

The full program for Reunion Weekend 2019 included 40 events held over three days. Alongside 17 cohort reunion events for medicine and dentistry alumni, the program included a psychology alumni afternoon tea, a 20-year anniversary celebration for the Melbourne School of Population and Global Health, discipline-specific professional development workshops, presentations, networking events and museum and campus tours. The University of Melbourne Parkville campus was host to most events, with others taking place at nearby venues the Prince Alfred Hotel and Naughtons.
FRIDAY EVENING
While the official opening of Reunion Weekend 2019 continued in Wilson Hall, two cohort reunions took place on campus. Alumni and guests huddled under large umbrellas to reach the Ernie Cropley Sports Pavilion for the MBBS 1974 45-year reunion, where, as one attendee observed, they found “a rowdy bunch” busy catching up. Speeches by reunion champions Dr Alain Lavoipierre (MBBS 1974) and Dr Tony Heinz (MBBS 1974) quieted the room, and Professor John Prins, Head of Melbourne Medical School, spoke about the new shape of the medical curriculum. Next up was a performance of classic pop songs by the Trinity Tiger Tones, an acapella group from Trinity College. The group’s nine-part harmony singing and black-tie choreography was a hit with the class of 1974.

SATURDAY
From the registration hub at University House, Professor’s Walk, alumni planned their event attendance for the day. As part of the Discovery Program, they explored a showcase of Australian Aboriginal cultural heritage objects in the Awaken Exhibition; toured the Medical History Museum, Harry Brookes Anatomy Museum, Metro Tunnel construction site and Systems Garden; took self-guided walks through Billibellary’s Country; and tried MOOG virtual training units at the Melbourne Oral Health Training and Education Centre (MOHTEC).

Dr Heather McKenzie, née Peden (MBBS 1953), started her visit by attending a screening of the Melbourne Medical School documentary, It Started in the Sunderland: “I appreciated the humour. Of course, the triradiate medical building, which the documentary celebrates, was built long after I’d graduated, but the stories were very interesting”.

Following the screening, Heather made her way to Wilson Hall for the Chiron Luncheon, a special gathering of medical alumni who graduated more than 50 years ago. The Luncheon was hosted by Professor Shitij Kapur, MDHS Dean and Assistant Vice-Chancellor Health, and Professor John Prins, Head of Melbourne Medical School, who thanked guests for continuing the long tradition of reunions within Melbourne Medical School.

Professor Prins emphasised the important contribution of Reunion Champions, cohort representatives who spearhead the planning and ensure invitations reach their often far-flung classmates. He particularly noted the tenacity of MBBS 1948 alumni – who have gathered for lunch regularly since graduation – and thanked the group’s current Reunion Champion, Dr Durham Smith AO (MBBS 1948, MD 1967, MS 1973), for his commitment to the cohort.

Heather is Reunion Champion for MBBS 1953 and appreciated seeing colleagues from neighbouring cohorts. “I loved the lunch – particularly that everything was organised for us,” she said.
IN DECEMBER 2019, DR JOHN RIDDLE (MBBS 1953) ORGANISED THE 67TH REUNION FOR MBBS 1952:

“On December 7, 2019, four GPs, one orthopaedic surgeon and one gastroenterologist sat down to lunch at Royal South Yarra Lawn Tennis Club. Our average age was 91. Three guests completed our number. Much reminiscing ensued and we toasted absent friends. We represented the 184 graduates of 1952 and in 1947 we were part of the first year to occupy the Mildura Campus of the University of Melbourne. Since graduating, how much every facet of medical practice has changed. God-willing we will repeat our luncheon in 2020.”
Next, Heather found her way to Health Research: Experts in Conversation, a panel discussion on what it means to be human. Professor Shitij Kapur, who had also traversed campus from Wilson Hall to Arts West, was on hand to introduce and moderate the panel. First, Professor Kapur acknowledged the traditional owners of the land, the Wurundjeri people, and described the Ngangkari healing tradition of Australia’s Indigenous people.

“Each generation of healers has felt they were on the cusp of transformative discoveries, which would change how health and medicine happens,” said Professor Kapur, suggesting that perhaps what remains unchanged amid medical advancements is our human nature.

A panel of three experts, Professor Sharon Lewin AO, Director, Peter Doherty Institute for Infection and Immunity; Professor Doug Hilton AO (BSc (Hons) 1986, PhD 1990), Director, Walter and Eliza Hall Institute (WEHI); and Professor Janet McCalman AC (BA (Hons) 1971), Redmond Barry Distinguished Professor at the Melbourne School of Population and Global Health, explored what it means to be human through the lens of their research interests.

Major themes that emerged from the discussion were life expectancy (as a measure of the success of medicine and society), breakthroughs in science (such as the sequencing of the human genome), collaboration, community and patient advocacy, data and processing speeds, the intergenerational transfer of knowledge and our interdependency as a species.

**SATURDAY EVENING**

At the Faculty-wide Happy Hour in Wilson Hall, alumni gathered to share drinks and canapés in celebration of the day’s events and to launch their respective cohort reunions. At University House, Professor’s Walk, MBBS 1989 Reunion Champion Dr Yvonne Ho AM was pleased that their 30-year reunion attained the second highest attendance out of all 17 reunions held over the weekend.

“**Our cohort had not had a whole-class reunion for three decades! In May 2019, I was in contact with some former classmates to discuss organising a reunion and then, two weeks later, the University emailed with news of the Reunion Weekend 2019.**”

Yvonne specialised in radiology and nuclear medicine after graduating and is now a medical doctor who also owns and runs a multi-venue music school. Since her contribution towards the successful MBBS 1989 reunion, Yvonne has been involved in a collaborative effort to create a registry of veterinarian-owned human ventilators for use in the event of a COVID-19 surge. She has been in touch with her cohort in support of this: “If it hadn’t been for our 30-year reunion and my part in organising it, I would have had some challenges getting in touch with my cohort for this purpose.” Yvonne’s fascinating career and family history is detailed on page 26 of this edition of Chiron.

Meanwhile, across campus, past University Square, four cohorts celebrated their milestone reunions on the tenth floor of University House at the Woodward, with campus and city lights decorating the sky-wide views. Dr Alana Tuxen (BMedSc 2002, MBBS (Hons) 2004), Reunion Champion for the MBBS 2004 15-year reunion, specialised in dermatology after completing her residency year at RMH and now travels regularly from Ballarat to Melbourne for clinics.
In helping to share the news of the event with MBBS 2004, Alana did some Googling: “I am just so proud of all the wonderful doctors in our year level and their amazing achievements. I got a snapshot of what our year has been up to and it was really varied and interesting and very inspiring.”

Professor John Prins joined in many events over Reunion Weekend with Reunion Champions and alumni at their respective reunions:

“Our alumni community is a vital part of Melbourne Medical School. As I discussed with alumni at their gatherings, their input and support in upholding the excellent reputation of the School is crucial. I welcome their suggestions in the development of the new Doctor of Medicine curriculum, to ensure it is tailored to the future, while continuing to teach core components. We are truly fortunate to have such experienced and varied medical professionals in our University community, which is exemplified by events like Reunion Weekend.”

Due to COVID-19 Reunion Weekend 2020 has been cancelled but we look forward to connecting with all our milestone cohorts through other programs this year.

Visit the website to keep up to date with future plans for your class reunion: 

[mdhs.unimelb.edu.au/visit/reuniteonline](mdhs.unimelb.edu.au/visit/reuniteonline)
Robert (Bob) Dickens (1938 – 2020)
Ian Reay Mackay AM (1922 – 2020)
Peter Salama (1968 – 2020)
Abe Dorevitch (1929 – 2019)
Dr Bob Dickens (MBBS 1962) will continue to make an impact in paediatric orthopaedic research and care through a new dedicated research trust established in his honour by Pamela Galli AO.

The Pamela Galli and Bob Dickens Paediatric Orthopaedic Research Trust will ensure a lasting legacy for Bob’s life’s work in the field of paediatric orthopaedics. Encompassing the establishment of a Chair and a unique fellowship program, the Research Trust will nurture and promote the next generation of paediatric orthopaedic research leaders in Australia.

Administered by the Department of Paediatrics in the Melbourne Medical School, the Research Trust will drive innovative research and enable career pathways within paediatric orthopaedic surgery in Australia.

The Royal Children’s Hospital Department of Orthopaedics is a key collaborator in the program, enabling the highest quality clinical training and care.

Bob was actively involved in the design of the research trust and had a clear vision that the program would build a sustainable research program to improve the lives of children.

“The Pamela Galli and Bob Dickens Paediatric Orthopaedic Research Trust will continue Bob’s incredible contribution to the field of paediatric orthopaedics in Australia. The Trust will provide much needed support and training for academic orthopaedic surgeons and deliver a clear pathway for young researchers. Bob’s passion and dedication to the field will long be remembered.” Professor John Prins, Head, Melbourne Medical School.

The program, which the Galli Trustees insisted should bear Bob’s name, will commence with a focus on developmental disability, particularly cerebral palsy.

Pamela Galli has made extraordinary philanthropic investments in medical research at the University of Melbourne. She has established three Chairs – the Lorenzo and Pamela Galli Chair in Developmental Medicine, currently held by Professor David Amor (MBBS 1992, PhD 2005); the Lorenzo and Pamela Galli Chair in Medical Biology, currently held by Professor Doug Hilton AO (BSc 1986, PhD 1990); and the Lorenzo Galli Chair in Melanoma and Skin Cancers, currently held by Professor Grant McArthur (BMedSci 1984, PhD 1994).

She has also established the Lorenzo and Pamela Galli Medical Research Trust, a uniquely designed initiative promoting collaborative medical research in cancer and children’s health.
The Royal Children’s Hospital is mourning the loss of one of its finest leaders, Dr Robert (Bob) Dickens. A passionate advocate, a strong financial and lobbying supporter, a guru for the toughest medical, medico-legal and political issues, Bob shared a genuine bond with and love of his patients and a profound respect and admiration for their parents.

After graduating MBBS in 1962 and completing a Fellowship in surgery Bob Dickens sought work at the Royal Children’s Hospital (RCH) where he first worked as the inaugural registrar in paediatric orthopaedics. The first Victorian orthopaedic surgeon to embark on postgraduate training in both the UK and the US, Bob Dickens pursued fellowships at the Royal National Orthopaedic in London, Oswestry in Wales, and in Pittsburgh where his involvement in basic research informed his later advocacy of laboratory access for orthopaedic research at RCH.

He returned to the RCH in 1972, bringing his expertise in the care of children’s spinal conditions to join Professor Peter Williams AO (MBBS 1946), Dr Malcolm Menelaus (MBBS 1954, MD 1971) and Dr William Doig (MBBS 1946); the team that put the hospital at the global forefront of paediatric orthopaedics. Not just a gifted surgeon, Bob was also a master clinician. Colleagues from within Victoria, around Australia and overseas, regularly sought his advice on diagnostic and management conundrums.

Together with Dr Ian Torode (MBBS 1973), Bob was instrumental in bringing innovations in spinal instrumentation to the RCH – a huge benefit in the care of adolescents with scoliosis. He remained interested and engaged with the Scoliosis Clinic long after his retirement, maintaining an encyclopaedic memory of rare conditions and loving interaction with new trainees.

Director of Orthopaedics at RCH from 1990-98, Bob brought a fine intellect, a passion for looking after children, and a larrikin sense of humour to the role. Although he was not always in agreement with hospital administration and bureaucracy (in many of Bob’s encounters it was a matter of an irresistible force shifting an immovable object) his style was always understated. A man of few words, who never wanted to be in the limelight, Bob preferred to work behind the scenes, where he was incredibly effective. A true team player and gentleman.

Bob’s deep and abiding commitment to support children with disabilities and their families, was driven both by his own moral values and sense of justice, as well as his lived experience as a parent. He practised family-centred care, multidisciplinary teamwork and research-informed practice long before the terms entered the lexicon of contemporary medicine and healthcare.

After retiring early from surgery due to an eye condition, Bob maintained a clinical and medico-legal practice and was called upon many times for the conduct of delicate reviews and for the Medical Defence Association of Victoria. His insights and wisdom continued to create legends, such as the case of a twelve-year-old boy with recurrent abscesses in his foot.

During a morning clinical case conference, discussion revolved around whether it might be a tuberculous infection, or even a tumour. From the back of the room came the question, ‘Where did he spend his last holiday?’ The answer was ‘Cairns, Far North Queensland’. ‘That’s a Palm Thorn in the sole of his foot on the MRI scan’ observed Bob, and so a simple operation cured a problem that had persisted for months.

In 2004, Bob, Professor Dinah Reddihough AO (MD 2001), Dr Bruce Bonyhady AM (LLD 2014) and Katie O’Callaghan developed a vision for RCH to become a leader in developmental disability research, and soon SOLVE was born. Since then, more than $15 million has been raised through philanthropy to fund three Chairs and numerous fellowships and the NHMRC has invested $5 million in two Centres for Research Excellence. This funding has underwritten an ever-increasing record of research achievement and a team of over 70 researchers and clinicians.

The future of developmental medicine and orthopaedic research in Melbourne is thus guaranteed, much of it due to Bob’s leadership, example and personal efforts in securing long-term funding. Dr Bob Dickens’ legacy will long be remembered for all that he has done. His name will also live on as the result of the continuing transformative philanthropy of Pamela Galli in a soon to be established leadership position and fellowship program in paediatric orthopaedics, the design of which was guided by Bob’s wisdom and intellect during his final weeks.

Professor Bruce Bonyhady AM (LLD 2014)
Professor Emeritus Glenn Bowes AO
Professor Kerr Graham
Professor Ian Mackay AM was a pioneer of research into autoimmune diseases – conditions in which the body’s immune system mistakenly attacks its own organs and tissues. His research led to a new era of ‘immunosuppressive’ treatments for autoimmune diseases such as autoimmune hepatitis, lupus, rheumatoid arthritis and Sjögren’s syndrome, therapies that diminish the immune response to reduce disease symptoms.

Professor Mackay was educated at the University of Melbourne, later training at Hammersmith Hospital, UK, with Dame Sheila Sherlock, a pioneer in the then-emerging field of hepatology. After working in the United States, in 1956 Professor Mackay was invited to work in Melbourne at the Clinical Research Unit, a joint initiative between the Walter and Eliza Hall Institute and the Royal Melbourne Hospital.

BREAKTHROUGHS IN AUTOIMMUNE RESEARCH

It was an exciting time in the nascent field of immunology: Institute director Sir Frank Macfarlane Burnet had postulated that certain diseases might be caused by a misdirected autoimmune attack, although this was at the time a controversial – and even derided – theory. Professor Mackay applied his experience in hepatology to study hepatitis – liver inflammation – and with colleagues developed a blood test that revealed that some cases did indeed have an ‘autoimmune’ component.

He pioneered the use of immunosuppressive drugs for the treatment of autoimmune hepatitis, a condition that disproportionately affected young women. His work led to a transformation in the prognosis of autoimmune hepatitis, from a disease that had previously been a death sentence to an illness in which patients led close to normal lives.

Under the framework of the Clinical Research Unit, Professor Mackay and Sir Macfarlane Burnet (MBBS 1922, MD 1924, LLD 1962) collaborated in the clinic and the laboratory, revealing a range of diseases caused by autoimmunity – diseases which until then had been considered of unknown cause. Their 1963 book The Autoimmune Diseases was a landmark publication. In 2012, the Medical Journal of Australia commemorated the 50th anniversary of the book, describing it as ‘a founding text’ that ‘marked the beginning of autoimmunity as a clinical science. Its insightful concepts and novel ideas inspired a generation of clinical and basic immunological researchers.’

A VALUED COLLEAGUE

Professor Mackay devoted the rest of his career to work at the Institute and the Royal Melbourne Hospital – becoming head of the Clinical Research Unit in 1963 – until his retirement in 1987, and continued to make many breakthroughs in the understanding and treatment of autoimmune diseases.

After his retirement, research was never far from his mind and he contributed to many productive research collaborations and held a research position at Monash University. He also continued to write both research publications and academic texts, as well as the book Intolerant Bodies: A Short History of Autoimmunity (written with Professor Warwick Anderson (BMedSc 1980, MBBS 1983, MD 2004). This won the General History Prize in the New South Wales Premier’s History Awards 2015.

Institute director Professor Doug Hilton AO said Professor Mackay was truly a scientific pioneer. “Ian’s research changed the understanding of the causes of autoimmune diseases, making an enormous impact on how we study them and saving and improving countless lives through better treatments,” he said.

“We will remember Ian’s incisive mind, exacting standards and laser like focus on solving major clinical problems. He was a pioneer of the Institute’s commitment to translational research and shaped the Institute we have today.

THE PROFESSOR IAN MACKAY TRAVEL SCHOLARSHIP FUND

Professor Mackay’s legacy will live on at the Walter and Eliza Hall Institute of Medical Research. In honour of his remarkable contributions, the Professor Ian Mackay Travel Scholarship Fund has been established to support the bright young scientists who will be making key discoveries in the years to come.

Find out more about Professor Ian Mackay’s work and his scholarship fund at wehi.edu.au/about-history/notable-scientists/professor-ian-mackay

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Melbourne Medical School alum, Dr Peter Salama died suddenly at the age of 51 on 23 January.

The Australian-born medical epidemiologist was known as an eloquent global health advocate, who dedicated his career to combating the world’s most difficult and dangerous diseases and strengthening fragile health systems in states weakened by war and civil unrest.

After joining the World Health Organisation (WHO) in 2016 as executive director of Health Emergencies, Salama oversaw the winding down of a massive Ebola epidemic in West Africa, only to be confronted two years later in 2018 with the re-emergence of the deadly virus in the Democratic Republic of Congo (DRC).

Prior to joining UNICEF in 2002, Dr Salama was visiting scientist at the International Emergency and Refugee Health Branch at the US Centers for Disease Control (CDC), and a visiting professor in nutrition at Tufts University. He has also worked with Médecins Sans Frontières and Concern Worldwide in several countries in Asia and sub-Saharan Africa. Dr Salama has led research and published extensively on maternal and newborn child health, vaccine-preventable diseases, HIV, nutrition, war-related mortality and violence, refugee and emergency health, and programming in fragile states. He completed his medical and public health degrees at Melbourne and Harvard Universities, where he was also a Fulbright and Harkness fellow in public policy.

In 2019, he was appointed Executive Director of WHO’s new flagship programme on Universal Health Coverage (UHC), which he used as a platform to advocate for the inclusion of the world’s poorest and left-behind populations.

A talented orator, Salama was outspoken about both the challenges and the need to boost weak health systems, particularly in conflict regions, improving both their preparedness as well as routine care, issues with which he had grappled since the early days of his career.

He linked persistent health inequalities with the problems faced by fragile states. In one keynote address to a Geneva gathering of pharma manufacturers in December 2018, he said the following:

“In recent decades it is not necessarily the poorest countries that have fallen behind the most, it is those countries or parts of countries that are facing conflict, insurgency or are fragile due to other reasons.

“In fact, more than three-quarters of the major outbreaks we see at WHO occur in these 20 or 30 places. Think, plague in Madagascar, wild polio on the Afghan-Pakistan border, yellow fever in Angola, cholera in Yemen, diphtheria among Rohingya refugees in Bangladesh, measles in Venezuela … Most of our global health battles will be won or lost in these countries.”

The huge outpouring of response over Salama’s death from nearly every major global health institution, as well as national health ministries, was testimony to the high regard he commanded for his work on some of the world’s most challenging diseases and health issues.

“Peter was a loyal and committed health advocate and multilateralist. He brought depth and strength to WHO. He will be missed,” tweeted Lancet Editor, Richard Horton.

He was, “an amazing person and a relentless champion for the universal right to health for every child,” said UNICEF’s global director of communications, Paloma Escudero.

Before joining WHO, Dr Salama was Regional Director for the Middle East and North Africa at UNICEF, an organization that he joined in 2002, with his first posting in war-torn Afghanistan.

He is still remembered there. Suraya Dalil, Afghanistan’s minister of public health, said: “Dr Peter Salama worked with UNICEF Afghanistan in 2002-3 and immensely contributed in the construct of equitable healthcare including the Basic Package of Health Services. His legacy to make the world a better place will continue in our continued collective work”.


Salama, is survived by his wife and three children.

Originally published: go.unimelb.edu.au/ip9j
Dr Abraham Phillip Dorevitch, founder and head of Dorevitch Pathology, died recently five weeks short of his 90th birthday.

Abe was born in 1929, the eldest child of Rebecca and Morris Dorevitch. Growing up with his three siblings in Carlton during the Depression, Abe experienced first-hand the poverty and hardship of the times, which he always felt was responsible for his lifelong empathy and support for the underprivileged and for those battling economic difficulties.

Abe was a diligent and hardworking student who on completing his secondary school education at Melbourne Grammar took the advice of his violin teacher and enrolled in medicine. His first year in 1947 was spent in Mildura where the University of Melbourne had established a residential campus to cope with the large numbers of returning World War II personnel.

During his second year, back in Melbourne, he met Vera (BA 1975, GDipSocialStudies 1976), a Czech emigre who had survived the Holocaust and recently arrived in Australia. They became engaged on the day he graduated in 1952.

Abe began consultant medical practice as a physician in general medicine but in 1959 he left the public hospital system to pursue a career in pathology initially as a partner in a small private practice.

In 1967, he spent a year in London with his young family, obtaining several postgraduate pathology qualifications as well as admission into the Royal College of Physicians. In 1970, Abe established his own solo private practice, employing 18 scientific, nursing and administrative staff and working out of a small laboratory built in an old converted house in Camberwell Junction.

Over the next few years the practice grew steadily, amalgamating with Sacred Heart Pathology in 1979. By the time Dorevitch Pathology was sold to Mayne Health – a public, listed company – in 1996, it had grown to become an integrated system of nine state-of-the art laboratories located across metropolitan Melbourne, country Victoria and southern NSW, with 46 collection centres and a staff of more than 800, including 23 pathologists.

Under Abe’s leadership, Dorevitch Pathology became not only one of Victoria’s largest private pathology providers, but was also widely regarded as the best, due to its focus on quality assurance, excellence in clinical service provision and developing and maintaining close relationships with its referring doctors and hospitals.

Abe lived his professional life by his oft quoted dictum of “pursue excellence and success will follow”.

He was quick to adopt new technology and innovate in all areas of service provision, offering a progressively wider range of services both within and outside the healthcare system. Many of these were provided pro bono, in keeping with his core value of giving to the community. For example, apart from providing free pathology services to refugees, Abe never charged those identified by their referring doctors as being of limited financial means, an act that was particularly significant before the introduction of Medicare rebates.

The practice also provided pathology services for clinical drug trials, the Australian Olympic Federation and Healesville Sanctuary, with which it collaborated to establish blood test reference ranges for various indigenous Australian mammals that were sent to zoos around the world.

Abe ensured that his medical practice had a strong focus on scholarship. He prioritised scarce physical space in the laboratory for the establishment of a medical library employing a full-time librarian to service the needs of staff and referring doctors – unheard of in private practice. He also regularly wrote a Dorevitch Pathology professional newsletter that was distributed to referring doctors and subsequently, due to its widely recognised quality, reprinted in the Australian Family Physician, a journal distributed to all Australian general practitioners.

Abe was also a committed and energetic teacher. For more than 25 years he was personally involved in teaching skin histopathology – a sub-specialist interest for which he developed an internationally acclaimed reputation – initially to trainee dermatologists and later to pathology and plastic surgery trainees as well. Such was the quality of his teaching, that Dorevitch Pathology became an accredited training site for pathology registrars – again something totally unheard of outside the public hospital system.

Abe was widely regarded as a modest, humble and self-effacing leader. It gave him immense satisfaction that he was able to provide employment for so many people – the overwhelming majority of whom he knew by name.

For example, when one of the smaller satellite centres was forced to close, rather than retrenching the 19 affected staff Abe chose to redeploy them elsewhere in a supernumerary capacity.

Of his many academic qualifications, professional memberships and awards, the one he was the proudest of was a small plaque acknowledging Dorevitch Pathology as a compassionate employer. He felt that this was recognition of his philosophy that staff welfare, happiness and job security were the key measures of organisational success rather than profit, customer or shareholder satisfaction.
He always maintained that if the focus was primarily on the staff, then what flowed on from that in terms of morale, esprit de corps and willingness to work together to achieve practice goals would be assured. Many of his former staff have noted how they treasured their working days at Dorevitch Pathology not just because of Abe’s intellectual rigour and pursuit of professional excellence in servicing the needs of his patients and doctors, or his desire to support teaching and research activities, but because he was widely seen as a man of moral integrity, kindness, decency and humanity who treated all of his staff accordingly, regardless of their roles within the organisation.

It is notable that when the practice ultimately became too large for him to manage, Abe sold it to the third-highest bidder because he felt that they would be most likely to maintain his business philosophy and work standards.

After the sale of Dorevitch Pathology, Abe continued working for another 20 years focusing his attention on what he loved doing best – peering down a microscope at skin pathology slides and teaching medical students and postgraduate trainees. As he gradually cut down his working hours, he spent increasing amounts of leisure time devoted to his growing family and other interests including travelling, reading and writing poetry, listening to and playing classical music.

Abe was widely regarded as the epitome of a true scholar, teacher and gentleman and a man of great humility with an enormous heart – a heart that ironically and without warning, ultimately let him down.

He is survived by Vera – his wife of more than 66 years, his three children – Michael (MBBS 1979, MD 1999), Steven (MBBS 1981) and Katy (BA 1984), 10 grandchildren and three great grandchildren. Michael, Steven and Katy contributed to the writing of this tribute.
BOOK REVIEWS

ANATOMISTS OF EMPIRE: RACE, EVOLUTION AND THE DISCOVERY OF HUMAN BIOLOGY IN THE BRITISH WORLD
ROSS L JONES

Of skulls, an astonishing hoax, the beginnings of the study of humankind, scientistic racism – and the Australian scientists in the thick of it... The 20th-century anatomists Grafton Elliot Smith, Frederic Wood Jones (DSc 1934) and Arthur Keith travelled the globe collecting and constructing morphologies of the biological world with the aim of linking humans to their deep past as well as their evolutionary niche. They dissected human bodies and scrutinised the living, explaining for the first time the intricacies of human biology. They placed the body in its environment and gave it a history, thus creating an ecological synthesis in striking contrast to the model of humanity that they inherited as students. Their version of human development and history profoundly influenced public opinion as they wrote prolifically for the press, published bestsellers on human origins and evolution, and spoke eloquently at public meetings and on the radio. By changing popular views of race and environment they moulded attitudes as to what it meant to be human in a post-Darwinian world – thus providing a potent critique of racism.

ABOUT THE AUTHOR
Ross Jones (BA (Hons) 1978, GDipEd 1980) taught in schools for over two decades before completing his PhD on the Australian eugenics movement. Since then he has variously taught the histories of medicine, public health and biology at the University of Melbourne; has been an Australian Research Council postdoctoral fellow at the University of Sydney as well as the Redmond Barry Fellow at the State Library of Victoria.

He is an active contributor in newspapers, radio, TV and online and has published widely in the areas of the history of anatomy, eugenics, medical biography and education including his previous book *Humanity’s Mirror: 150 Years of Anatomy* in Melbourne.

He is currently an honorary Senior Fellow in the Department of Anatomy and Neuroscience at the University of Melbourne

STAYING ALIVE
DR KATE GREGOREVIC

THE SCIENCE OF LIVING HEALTHIER, HAPPIER AND LONGER.

By the time we turn 60 most of us will still have approximately one-third of our lives to live. How well we live these years will depend on our health: are we agile, disease free, dependent on medication or require medical assistance?

The current global health crisis has highlighted the vulnerability of age in a way we have not seen for generations. In *Staying Alive*, specialist geriatrician Dr Kate Gregorevic aims to educate us to increase our own capacity to create health for a long and vital future.

In *Staying Alive* you’ll discover proven scientific details on how you can avoid or manage the major diseases that impact us as we age, including heart health, diabetes and dementia, and boost your everyday behaviours to improve your enjoyment of life.

The book explains what happens to our bodies as we age and the changes that occur at a DNA and cellular level. Dr Gregorevic provides advice on the everyday lifestyle choices we can make to not only improve physical and mental health in the present, but also decrease the risk of chronic disease, frailty and dementia.

ABOUT THE AUTHOR
Dr Kate Gregorevic (BSc 2001, MBBS 2006, PhD 2019) is a geriatrician and internal medicine physician. She works in both acute hospital medicine and community settings. She has also completed a PhD looking at the impact of positive psychosocial factors in the development of frailty in older adults. She has published multiple studies in this area.

Lifestyle medicine is a core feature of Dr Gregorevic’s clinical practice, and nutrition, exercise and sleep are integral to developing plans to optimise her patients’ health. Her approach goes beyond physical, by working with people to identify their own priorities and values, and always centring these in any management plans.

Dr Gregorevic’s is also the director of Project Three Six Twelve, an online wellbeing and exercise program, giving women over 40 the tools they need to improve strength and vitality.
CHILDREN’S STORY BOOK RELEASED TO HELP CHILDREN AND YOUNG PEOPLE COPE WITH COVID-19

A new story book that aims to help children understand and come to terms with COVID-19 has been produced by a collaboration of more than 50 organisations working in the humanitarian sector including the World Health Organisation, the United Nations Children’s Fund, the United Nations High Commissioner for Refugees, the International Federation of Red Cross and Red Crescent Societies and Save the Children.

With the help of a fantasy creature, Ario, My Hero is You, explains how children can protect themselves, their families and friends from coronavirus and how to manage difficult emotions when confronted with a new and rapidly changing reality.

The book – aimed primarily at children aged 6-11 years old – is a project of the Inter-Agency Standing Committee Reference Group on Mental Health and Psychosocial Support in Emergency Settings, a unique collaboration of United Nations agencies, the United Nations Children’s Fund, the United Nations High Commissioner for Refugees, the International Federation of Red Cross and Red Crescent Societies and Save the Children.

In order to reach as many children as possible, the book has been widely translated and has been released as both an online product and audio book.

www.unicef.org/coronavirus/my-hero-you

THE LONG SHADOW

PROFESSOR ANNE BUIST

Psychologist Isabel Harris has come to the outback town of Riley because her husband Dean is assessing the hospital—the hub of the community—with a view to closing it down. Isabel, mostly occupied with her toddler, will run a mother-baby therapy group. But on the first day she gets an anonymous note from one of the mothers:

The baby killer is going to strike again. Soon.

Then a series of small harassments begins.

Is it an attempt to warn Dean off? Or could the threat be serious? A child was murdered in Riley once before.

As Isabel discovers more about the mothers in her group, she begins to believe the 25-year-old mystery of a baby’s death may be the key to preventing another tragedy.

Buist’s clinical and research work running attachment therapy based groups for perinatal women provides a background for the book. The attachment work, also an inspiration for the title given childhood scars often do have ramifications in adulthood, provides insight into five very different women from a small town, as well as their therapist; between them they have the answers that the psychologist heroine needs to piece together a 25-year-old murder mystery.

ABOUT THE AUTHOR

Professor Anne Buist (MMed 1992, MD 1999) is the Chair of Women’s Mental Health at the University of Melbourne, based at Austin Health, and has over 30 years clinical and research experience in perinatal psychiatry including being director of mother-baby units for much of this time. She continues to work with Protective Services and the legal system in cases of abuse, kidnapping, infanticide and murder.

Professor Buist also wrote psychological thrillers, the Natalie King, forensic psychiatrist, trilogy: Medea’s Curse, Dangerous to Know and This I Would Kill For. A stand-alone psychological thriller with a perinatal psychologist heroine, The Long Shadow, was released in April 2020.

MY HERO IS YOU

IASC – INTER-AGENCY STANDING COMMITTEE

My Hero is You

how kids can fight COVID-19!

MY HERO IS YOU
IASC – INTER-AGENCY STANDING COMMITTEE

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www.unicef.org/coronavirus/my-hero-you
HONOURS AND AWARDS

2019 QUEEN’S BIRTHDAY HONOURS

MEDAL OF THE ORDER OF AUSTRALIA

Associate Professor Michael J Denton OAM (MBBS 1972)
For service to medicine as a vascular surgeon.

Dr John D England OAM
(PhD, MBBS 1969)
For service to medicine as a cardiologist.

Dr Georgia A Paxton OAM
(BMedSc 1997, MBBS (Hons) 1997)
For service to community health, and to refugees.

Dr Adam M Zagorski OAM (MBBS 1976)
For service to medicine as a general practitioner.

MEMBER OF THE ORDER OF AUSTRALIA

Associate Professor Anthony J Buzzard AM (MBBS 1965)
For significant service to the international education sector, and to medical science.

Associate Professor Winita Hardikar AM (MBBS 1983, PhD 1993)
For significant service to medicine, particularly to paediatric liver disease and transplantation.

Professor Andrew A Heggie AM
(BDsc 1978, MDSc 1981, MBBS 1991)
For significant service to medicine and dentistry in the field of oral and maxillofacial surgery.

Dr Peter E Lillie AM (PGDipEcho 2006)
For significant service to medicine in the field of anaesthesia.

Associate Professor David A McCredie AM (MBBS 1949, BSc 1951, MD 1959)
For significant service to medicine in the field of paediatric nephrology.

Associate Professor Ruth P McNair AM (MBBS 1986, PhD 2010)
For significant service to medicine, and as an advocate for the LGBTQI community.

Dr Joseph A Reich AM (MBBS 1969, GDipOphthal 1974)
For significant service to ophthalmology.

Professor Malcolm R Sim AM
(BMedSc 1978, MBBS 1980)
For significant service to occupational and environmental medicine.

Dr Rodney R Syme AM (MBBS 1959)
For significant service to social welfare initiatives, and to law reform.

OFFICER OF THE ORDER OF AUSTRALIA

Professor Lex W Doyle AO
(MBBS 1972, MD 1989)
For distinguished service to medicine, and to medical education, as a neonatal paediatrician, academic, author and researcher.

Professor Fiona K Judd AO
For distinguished service to medicine, and to medical education, as a clinical psychiatrist and academic, and to professional bodies.

Professor David A Mackey AO (MD 1993)
For distinguished service to medicine, and to medical education, in the field of ophthalmology, as a clinician-scientist and academic.

Professor Christina A Mitchell AO
(MBBS 1978, Hon DMEdSc 2013)
For distinguished service to medicine in the field of haematology, to medical education and research, and to academic leadership.

Professor Richard G Pestell AO
(PhD 1992, MD 1997, Hon DMEdSc 2016)
For distinguished service to medicine, and to medical education, as a researcher and physician in the fields of endocrinology and oncology.

MEMBER OF THE ORDER OF AUSTRALIA

Dr Marguerite Evans-Galea AM
For significant service to women in STEM as an advocate and role model.

Professor Michael L Grayson AM
For significant service to medicine in the field of infectious disease.

Brigadier Michael C Reade AM
For exceptional performance of duty as the Director of Clinical Services of the 2nd General Health Battalion and Professor for Military Medicine and Surgery.

Professor James Wilkinson AM
For significant service to medicine, particularly paediatric cardiology.

2020 QUEEN’S BIRTHDAY HONOURS

MEDAL OF THE ORDER OF AUSTRALIA

Dr Frank S Evans OAM (MBBS 1958)
For service to the international community of Timor Leste.

Associate Professor Hadia Haikal-Mukhtar AM (BSc (Hons) 1976, MBBS 1981, LLB 1999)
For service to medicine, and to the Lebanese community.

Dr Brian R Hassett OAM (MBBS 1969)
For service to medicine, and to the community of Ballarat.

Dr Heather G Simmons OAM (MBBS 1968)
For service to medicine, particularly to women’s health.

MEMBER OF THE ORDER OF AUSTRALIA

Dr Christopher S Baker AM (MBBS 1984)
For significant service to medicine, to dermatology, and to professional medical colleges.

Dr Robert John Bartlett AM (MBBS 1967)
For significant service to orthopaedic medicine, and to national and international medical associations.
Professor Emeritus Roger J Pepperell AM (MBBS 1965, MGyn&Obstet 1973) For significant service to medical education, particularly to obstetrics and gynaecology

Dr Christine B Phillips AM (BMedSc 1988, MBBS 1988) For significant service to medical education, to migrant and refugee health, and to medicine

Professor Andrew W Roberts AM (PhD 1997) For significant service to medical research, to haematology, and to cancer organisations

Professor Susan M Sawyer AM (MBBS 1985, MD 1995) For significant service to tertiary education, to adolescent health, and to international groups

Mr Russell J Corlett AM For significant service to plastic and reconstructive medicine, and to the community of the Asia-Pacific region

OFFICER OF THE ORDER OF AUSTRALIA
Mr Alexander W Auldist AO (MBBS 1962) For distinguished service to paediatric medicine as a surgeon, educator and mentor of young physicians, and to professional organisations

Professor George A Werther AO (MBBS 1971, MD 1994) For distinguished service to medicine, to paediatric endocrinology and research, and to professional medical organisations.

Professor Ingrid Winship AO For distinguished service to medicine, particularly to clinical genetics and research, to cancer prevention, and as a role model and mentor

OFFICER OF THE ORDER OF AUSTRALIA
Mr Phillip N Antippa OAM (MBBS 1991) For service to thoracic surgery, and to music.

Dr Vincent B Gallichio OAM (MBBS 1975) For service to medicine.

Dr John M Wettenhall OAM (BMedSc 1968, MBBS 1969) For service to the international community through water, sanitation and medical programs.

Dr David M Workman OAM (MBBS 1979) For service to ophthalmology, and to international relations.

MEMBER OF THE ORDER OF AUSTRALIA
Associate Professor John P Collins AM (MBBS 1969) For significant service to medicine, particularly to breast cancer treatment.

Emeritus Professor Brendan J Crotty AM (MBBS 1979, MD 1990) For significant service to health education, and to the community.

Dr John W Orchard AM (BA 1989, MBBS 1989, MD 2006) For significant service to sports medicine, particularly to cricket.

Dr Sabar Rustomjee AM (GDipPsychMed 1972) For significant service to psychotherapy, and to community health.

Dr John D Santamaria AM (MBBS 1975, MD 1987, GDipEpid&Biostat 2001) For significant service to intensive care medicine.

Professor Robert K Shepherd AM (PhD 1987) For significant service to biomedical research, and to education.

Dr Desreee S Yap AM (MBBS 1987) For significant service to women’s health and to medicine.

Associate Professor Marion A Saville AM For significant service to women’s health through cervical screening initiatives.

Professor Gillian M Duchesne AM For significant service to radiation oncology medicine, and to professional medical organisations.

OFFICER OF THE ORDER OF AUSTRALIA
Professor Michael Permezel AO (MBBS 1977, MD 1989) For significant service to women’s health, and to medicine.

Professor Jeffrey D Zajac AO (MBBS 1977, PhD 1988) For distinguished service to medicine, and to medical education, in the fields of obstetrics and gynaecology, and to professional colleges.

Professor Roy M Robins-Browne AO For distinguished service to medical education and research in the field of microbiology and immunology, and to professional groups.

Professor Shaun P Brennecke AO For distinguished service to medical education and research in the fields of obstetrics and gynaecology, and to professional societies.

PUBLIC SERVICE MEDAL
Professor Stephen M Cordner AM PSM (GDipArts(Crim) 1977, MBBS 1977, BMedSc 1977) For distinguished service to medical research and education, particularly in the field of endocrinology, and to professional societies.
As a member of our alumni community you can access an extensive range of events and benefits, both locally and internationally.

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