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FACULTY OF MEDICINE DENTISTRY & HEALTH SCIENCES

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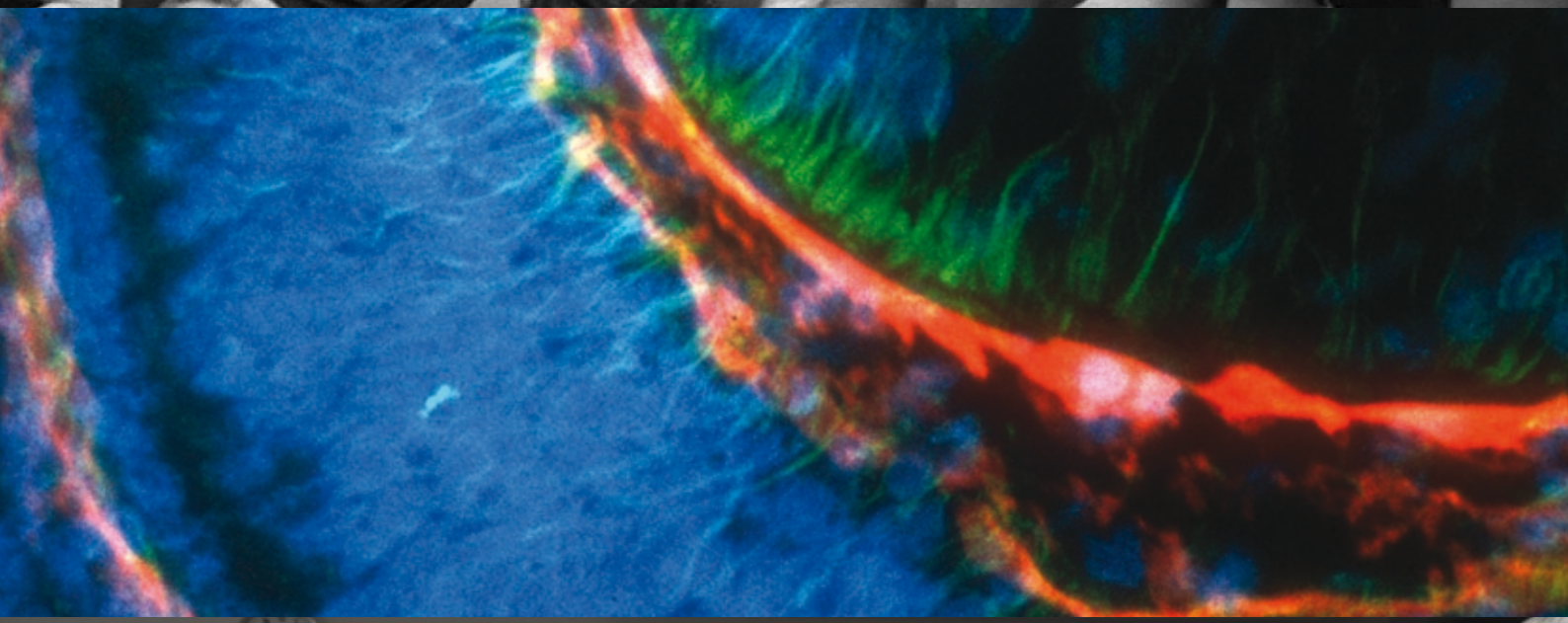

The Fitzroy Stars' Alister Thorpe (left) playing McLeod earlier this year.

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TOP:
The Fitzroy Stars is a football club for young Aboriginal men which was formed in the early 1970s. In 2008, Melbourne's Northern Football League accepted the Stars into its fold after a 13-year hiatus. In spite of not being part of a local competition for so long, the Stars continued to play footy and won the last four Victorian Aboriginal Youth Sport and Recreation (VAYSAR) George Atkinson Aboriginal State Football Carnivals. Pictured are, from L-R: Kaelun Brown, David Welsh, Alister Thorpe, Rhett McCleish and Peter Hood. Alister Thorpe is a child health and wellbeing project officer based at Onemda VicHealth Koori Health Unit in the Melbourne School of Population Health.

MIDDLE:
This image shows flourescent antibody labelling of fibroblast growth factor-1 (green), heparin sulphate proteoglycans (red) and DNA (blue) in cells of the embryonic rat eye. It was taken some years ago by Robb de Iongh, now senior lecturer in the Department of Anatomy and Cell Biology, during his PhD at Sydney University.

BOTTOM:
Harry Crock (left), Frank Vadja (right) and the Dean, James Angus (centre) at the MD dinner in August.

BACK:
Mark Ross-Smith, research assistant in the cardiovascular therapeutics unit of the Department of Pharmacology, mounting small rat mesenteric artery ring segments into a multi myograph organ bath. The multi myograph is used to measure the isometric force contraction in small (< 1 mm) arteries in response to vasoactive substances.

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METAMORPHOSIS OF A MEDICAL SCHOOL

James Best

James Best

As we prepare to mark the 150th anniversary of the Melbourne Medical School in 2012, several new Australian medical schools are just getting underway. Our advantage of a wonderful tradition should be treasured and celebrated, but should not prevent us from being innovative and leading change. This issue of *Chiron* acknowledges people and buildings that have been part of our tradition, while outlining ambitious changes for our medical course and for the way we do research.

In wanting our medical school to be distinguished and distinctive, we have considered the attributes that should characterise our graduates and inform the content of our medical course. Some of these attributes, such as putting the needs of our patients first, providing service to our community and maintaining our own wellbeing will be common to all medical schools. In other areas we can differentiate our medical course by focusing on particular aspects of both the overt and the hidden curricula.

Building on our medical school's outstanding record of contribution to medical research, we can ensure that our curriculum is research led and that our graduates are not only well trained in the scientific basis of medicine but have a strong understanding of the value of medical research and its principles, with the opportunity for a significant period of research experience. The faculty's strategic approach to the formation of research domains described in this issue will inevitably influence the content of a medical curriculum where the teaching is informed by research.

The theme of international engagement is also likely to permeate our curriculum. As one of the world's leading universities and medical schools, we need to think globally, a compelling reason for continuing to attract overseas students.

The superb essays from medical students in this issue, describing their international elective and advanced medical science experiences, are a strong endorsement of providing opportunity for international engagement and research experience at an individual level.

Another distinguishing feature of our medical school's history is the number of leaders in teaching, in research, in the medical profession and in other areas of life, who we count amongst our alumni. The presentations made by Christine Kilpatrick and Ian Gust at a recent event for our MD alumni are also reported in this issue of *Chiron*. How do we capture the spectrum of leadership and service that exists in our academic staff and our alumni to imbue the next generation of leaders in the medical profession? Perhaps this is already happening through the hidden curriculum.

One element of our medical school we must be sure to maintain is a distinctly Australian focus and experience. Indigenous health must be given strong emphasis and this issue of *Chiron* includes important relevant articles on this theme. The unique character of Australia's rural environment is also important and rural health must have a significant place in our curriculum. It is 35 years since I met Barrie Aarons and I am not surprised that he is continuing to '...fill the unforgiving minute with sixty seconds' worth of distance run'.

We have much to be proud of in our alumni and I believe our alumni have much to be proud of in their medical school: together our reach extends far beyond our current students and staff. We invite you to join us in preparing to celebrate past achievements on the 150th anniversary of our founding. We invite you to join us as we continue to strive for excellence, to contribute to our community and as we take medical education to greater places in our new medical course.

Professor James Best is head of the Melbourne Medical School

THE KNOWLEDGE ECONOMY AND ABORIGINAL HEALTH DEVELOPMENT

Ian PS Anderson

The staff of the Onemda VicHealth Koori Health Unit. Back, l-r: Kevin Rowley, Nicole McMillan, Laura Thompson, Yin Paradies, Dick Sloman. Middle, l-r: Angela Clarke, Shaun Ewen, Judy Pryor, Jane Yule, Bill Genat, Alister Thorpe, Kyllie Cripps, Paul Stewart, Nicole Waddell, Jacquie Watkins, Cristina Liley, Rachel Reilly. Front, l-r: Viki Briggs, Ian Anderson, Aunty Joan Vickery AO, Leah Johnston, Deb Knoche. Missing: Johanna Monk, Priscilla Pyett. Photo Miss Jane

Prime Minister Kevin Rudd has pledged to close the Indigenous health gap by 2030. A fundamental step in addressing health and social disadvantage is the production and exchange of knowledge. Universities have a key role in developing Indigenous health knowledge as the basis for innovation, workforce development and evidence-based policy and practice. Ian Anderson, a strong advocate of Aboriginal-led health initiatives for Indigenous people, has worked in Aboriginal health for 22 years as a health worker, educator and general practitioner. Ian is director of the Centre for Health and Society and the Onemda VicHealth Koori Health Unit at Melbourne University and research director of the Cooperative Research Centre for Aboriginal Health. He argues that if universities are to fulfil their role in closing the Indigenous health gap, they need to change their approach.

The Indigenous health gap sees an Indigenous person in Australia live, on average, for 17 years less than other Australians and bear two-and-a-half times the burden of disease. It sees an Indigenous person bear five times the burden of diabetes; four-and-a-half times the burden of cardiovascular disease; and more than four times the burden of intentional injuries such as suicide or harm from violence. As stark as these figures seem, there has been some success. Indigenous infant and child mortality rates have fallen significantly and continue to do so. Between 1967 and 2004, Aboriginal life expectancy in the Northern Territory (NT) rose from 52 to 60 years for men and from 54 to 68 years for women. Death rates due to infectious disease in the NT also fell between 1977 and 2004.

However, not all the trends are positive—for example, chronic diseases such as diabetes, ischaemic heart disease and smoking-related cancers are increasing—and the challenge that remains is still considerable.

Universities must make changes if they are to cultivate the knowledge, contribute to problem-solving, and produce the workforce that underpins the innovation needed to close the Indigenous health gap. They will be responsible for training more Indigenous health professionals and for making sure that all health science students have a solid grounding in Indigenous health needs. To do this, they need to improve the ways they recruit and support Indigenous students and boost the quality of the Indigenous health learning experience for all students.

RECRUITMENT

Universities need to construct community relationships that create real opportunities for Indigenous students—to reach back into the school system and help create environments in which Indigenous students can succeed. We can encourage Indigenous students to aspire to careers in health. We can link them with the University while they are still in school through initiatives such as science summer schools, mentoring programs and targeted initiatives that build pathways between secondary school and University.

TEACHING

A key factor in closing the Indigenous health gap is ensuring that all students—both Indigenous and non-Indigenous—have a solid grounding in Indigenous health needs. Currently, Onemda works on a range of teaching and learning initiatives across the health professions. In 2004, we undertook a national audit of the inclusion of Indigenous content in medical education, which we then used to inform the development of a national Indigenous health curriculum framework. This framework, which articulates learning objectives, key pedagogies and the institutional reforms needed to support them, has been adopted by the Australian Medical Council and is the only such nationally agreed curriculum of its kind.

We are working with the medical deans of Australia and New Zealand to establish a trans-Tasman professional network of medical educators in Indigenous health. This network meets annually to oversee a program that includes the development of communication strategies, teaching and learning resources and a biannual conference. Universities can play a leading role in professional development initiatives such as this, by promoting cross-discipline and discipline-specific reform of teaching and learning in Indigenous health.

Ian Anderson

RESEARCH

Research processes must generate knowledge and analyse problems in a way that is appropriate and relevant to those working in Aboriginal communities, health services and the policy sector. There is a need for research that evaluates the impact of health interventions or policy reform—rather than research that just describes the problem.

Universities can also extend their relationships with Indigenous communities, government stakeholders, professional groups and service providers, providing the foundation for effective communication about ideas and knowledge—processes that are critical to innovation.

Indigenous communities are also sources of innovation and play a critical and active role in the production of knowledge. Innovation and its uptake in Aboriginal Australia must be founded on an approach that fosters Aboriginal leadership, supports the development of community capacity and engages with our intellectual world.

Onemda's approach to developing our research and teaching work is framed by broad community development principles involving multi-layered partnerships with Aboriginal people, communities and agencies in Victoria, in Australia and internationally. Our researchers ask communities to tell them what knowledge they need to develop better health services, to build capacity and to generate policies that will enable improvements in Indigenous health. We then develop researchable projects to address these needs. By beginning the research process with the Indigenous people who will ultimately be the end-users of the research, by the time the research is finalised a strategy for its implementation in a real-world situation is already in place.

Successful projects recently undertaken by Onemda include 'Sharing Our Stories and Building on Our Strengths', a program supporting Indigenous participation at a major international health conference, and a series of community research workshops culminating in the report *We Can Like Research…In Koori Hands*, which was launched at the Koorie Heritage Trust in October.

The full text of The Knowledge Economy and Aboriginal Health Development is available at: www.onemda.unimelb.edu.au/docs/deanslecturefinal.pdf

A key factor in closing the Indigenous health gap is ensuring that all students—both Indigenous and non-Indigenous—have a solid grounding in Indigenous health needs

WE CAN LIKE RESEARCH…IN KOORI HANDS

Onemda's latest community development report calls for Indigenous communities, organisations and individuals to exert greater control of, and involvement in, Koori health research. The findings of the report, *We Can Like Research…In Koori Hands*, are the result of a series of Indigenous health research workshops held across Victoria involving more than 40 Koori Elders, researchers and community representatives.

The latest report builds on the 'We Don't Like Research' workshop held by Onemda when it first began in 1999. This workshop was ground-breaking in that it was run by Koori people for Koori people, and gave participants a culturally safe space in which to voice their concerns about how Aboriginal health research had been done in the past. The workshop findings, published in the report have guided

Onemda's subsequent research, teaching and learning, and community development agenda, particularly in the area of health ethics.

Community development is a key plank of Onemda's work, according to Angela Clarke, a community development lecturer and deputy director of community programs at Onemda and one of the report's project managers, 'Our workshop series are a crucial part of our work with communities, and a way for Koori researchers to present how they use Koori methodology in their work and highlight positive research stories.'

In the current report, workshop participants voice their concern that without Koori communities directing and controlling research in Indigenous health, population health improvements are unlikely to significantly narrow the health gap between Indigenous and non-Indigenous Australians.

Koori Elder, Aunty Melva Johnson, of the Njernda Aboriginal Corporation in Echuca, reflected the views of workshop participants when she said, 'Research is fine as long it's handled by our people'.

The clear message out of these workshops is that participants want Koori health research to be controlled by Kooris.

A strong belief exists among Indigenous people that, historically, health research and its applications have not benefited them and they remain suspicious about mainstream research, its intentions, and impact on communities.

The workshops, nevertheless, revealed an air of guarded optimism among participants—a momentum for positive change—about the future of Indigenous health research. Recognition is slowly growing in the broader research and health sectors that Indigenous health research needs to be linked to Indigenous people having the resources, research capacity and leadership roles in setting the Indigenous health research agenda.

According to Paul Stewart, a research community development officer at Onemda who helped to organise and moderate the workshops: 'The clear message out of these workshops is that participants want Koori health research to be controlled by Kooris. For this to happen, Aboriginal community organisations need to play a key role in research and in its dissemination, implementation and evaluation, and need to be resourced to do this.'

The two reports can be ordered from Onemda or downloaded from: www.onemda.unimelb.edu.au/publications

SHARING OUR STORIES AND BUILDING ON OUR STRENGTHS

Onemda supported Indigenous participation at a recent international conference—'From Margins to Mainstream: 5th world conference on the promotion of mental health and the prevention of mental and behavioural disorders'—held in Melbourne.

With support from the Victorian Health Promotion Foundation, Onemda approached Indigenous professionals working in a diverse range of community programs, and offered workshops in writing abstracts and conference papers, presentation skills and logistical support. Several Onemda staff and associates acted as mentors to the participants, supporting them in writing and presenting their papers.

'The presenters were proud to talk to us about what their health and wellbeing projects are achieving for the communities they work and live in,' says project officer Ngarra Murray, who coordinated the workshops and conference attendance.

Indigenous professionals taking part were:

- Belinda Briggs, Rumbalara Football and Netball Club, Shepparton
- John Cusack, Family and Youth Services Team, Top End Association for Mental Health, NT
- Janelle Hickey, Billabong Barbeque Program for Parkies, Neighbourhood Justice Centre, Victorian Department of Justice
- Daniel Mulholland, AIMHI (Australian Integrated Mental Health Initiative) Program, a partnership between Top End GPs and Tiwi Island communities
- Gregory Phillips, Abstarr Consulting, with David Dryden and Ross Morgan, Maya Living Free Healing Centre, Thornbury
- Marcus Stewart, 'I'm an Aboriginal Dad' project, Child and Parent Services, Mercy Hospital, Melbourne

Onemda's Paul Stewart also ran a forum 'Indigenous Social and Emotional Wellbeing: Identity, Culture and Heritage' with presentations from Troy Austin, president of the Fitzroy Stars Football Club; Anthony Brown from Mental Health and Wellbeing for Young Indigenous People, Victorian Aboriginal Health Service in Northcote; and Helen Kennedy, health programs manager, Victorian Aboriginal Community Controlled Health Organisation in Fitzroy.

Speakers talked about specific policies and program activities that have enhanced the mental health of their communities. They also discussed the success they had achieved using sport, in particular football, as a vehicle to address the social and emotional wellbeing of the Koori community in Victoria.

Paul is happy about Onemda's involvement in this community development project. 'We wanted to get across the message that Indigenous people, whether they be researchers or community health professionals, are doing great work in their communities. Rather than Onemda presenting its own work, we wanted to be out there supporting people in communities talk up and share with others their positive stories.'

Onemda will evaluate the project to see if the lessons learned could help other groups in the Aboriginal community prepare and present their work to national and international audiences.

For more information about the project, please contact Ngarra Murray at: nmurray@unimelb.edu.au

A GRADUATE PERSPECTIVE OF MEDICINE

AN INTERVIEW WITH SHIRLEY GODWIN

Florienne Loder

Shirley Godwin with Terry Nolan, head, School of Population Health (left) and, the dean, James Angus (right) and Ian Anderson before his Dean's Lecture 'The Knowledge Economy and Aboriginal Health

'How's your brain coping with it?' is a typical comment she gets when people hear she is studying medicine, says Shirley Godwin, an Indigenous, mature-aged, fourth year medical student currently at the rural clinical school in Shepparton. 'It surprises people that I am studying medicine. My answer is: my brain loves it!'

At school, Shirley felt drawn to science. 'I enjoyed the mystery of it—solving a puzzle and that's what I enjoy about medicine too.'

Shirley moved from medical research to population health and, in her late thirties, began a medical degree. 'Straight out of school, I went on to do lab work. I was trained to work in a medical pathology laboratory, but found myself working in a research laboratory looking at heart disease and blood pressure. The biggest thing for me was realising how much work goes into medical knowledge.'

Shirley spent 15 years working in a research lab, but knew that she wanted to care for people, 'I came out of the lab, somewhat frustrated by the narrow focus. I had a sense that health goes beyond the science and the biology.' Pursuing her interest in population health, Shirley enrolled in an undergraduate degree in Indigenous community health at Curtin University, Perth, going on to conduct research looking at how community dysfunction impacts on health. 'It gave me a broader perspective: to see beyond the individual patient, to see them as part of a family and a community.'

Shirley is nearing the end of her fourth year: 'I am the oldest in my course and that can be a bit lonely. I started studying medicine late, but I don't see age as a barrier,' she says. 'The advantage is you've got a more balanced perspective. You've had contact with the health profession as a patient and also by accompanying ill family members. I've had family members in and out of hospital and have waited with relatives to see the doctors.'

'Health is impacted on by many things: people are complex, health is complex,' says Shirley. 'Once the patient leaves the GP there are things which impact on their health that are out of your control. As soon as you start talking with people you get a whole lot of other information.'

Her rural clinical rounds have given Shirley a different perspective: 'You have a lot more access to patients. Country people are so much happier to see you. There is a lot of support within rural communities and they are very close. I think it is a privilege to be let loose on all the patients', she says.

Shirley received a lot of encouragement and support from her parents, her community and the University: 'The support has been amazing. My parents instilled a confidence in me. It never occurred to me that I could not do anything. Now I am in my forties. You can do whatever you want at whatever age you want!'

She has also felt well-supported by the University. 'The fact that there is strong community of Indigenous workers at the University played a big part in my choosing to study at Melbourne. Jim Angus, the dean, was also very supportive. I actually knew him through my lab days. Melbourne University has a lot to be proud of.'

Shirley reflects on what has been different in her life compared to other Indigenous students. 'When I grew up, there were books in every room and I loved learning.' She says that education is increasingly being recognised as being critical for overcoming disadvantage. 'There has been a lack of access to education, as well as low expectations, but attitudes are changing. There has been a fear that children will leave their communities and not come back—'What, are you too good for us now?'—they were made to feel guilty and there was resentment by family members. But this is not unique to Indigenous communities. Some are coming back. But some need to leave to get an education.'

Shirley names Ian Anderson as her major role model: 'He is involved in a whole range of things, but goes about his business quietly.' She's also been inspired by older women and grandmothers. ' There are a lot of people in the communities achieving a lot of things. They are not just passive victims, but have a sense of responsibility and are caring for their families and communities,' she says.

There are currently 125 Indigenous students studying medicine in Australia. Shirley is also on the Student Representative Council of the Australian Indigenous Doctor's Association, which she sees as a good opportunity to speak out on issues affecting Indigenous students. 'One of the biggest issues Indigenous students face, is that they have a lot of family commitments and community obligations on top of their studies that other students do not have,' says Shirley. 'A lot of the younger students are simply struggling with their course, but I feel a responsibility to speak out.'

Shirley's future plans are to focus on general practice, but she also gravitates towards health promotion at a community level or medical education: 'I'd like to stop people getting sick in the first place.'

Florienne Loder is a science writer in the Faculty Research Unit, Faculty of Medicine, Dentistry and Health Sciences

NEW APPROACHES TO ABORIGINAL CHILD HEALTH

Jonathan Carapetis

Only about one in five children in remote Aboriginal communities in the NT reaches the basic benchmark for literacy and numeracy in grades three and five—benchmarks that more than 90 percent of non–Aboriginal children reach. Photo Kristy Harris

Professor Jonathan Carapetis (MBBS 1986) is director of the Menzies School of Health Research in Darwin. His research in group A streptococcal diseases in the Aboriginal population led to the establishment of Australia's first rheumatic heart disease control program in the Top End. He later co-founded the Department of Paediatrics' Centre for International Child Health at the Royal Children's Hospital. His research is focused on the health of Indigenous people and those in developing countries. The following is an edited transcript of the University of Melbourne Medical Society lecture delivered on 29 November 2007.

When I first accepted the invitation to deliver this lecture earlier this year, I had no idea it would be scheduled at a time of such upheaval in our nation. First came the Australian Government Intervention (AGI) in the Northern Territory (NT), then came a change of leadership of government in the NT, then, to top it all off, came the Australian federal election only five days ago. All these changes have the potential to alter the policies and practices that affect the health of Aboriginal children. One can only hope that these changes are for the better, and are as dramatic as they need to be.

Tonight, I plan to briefly overview the health status of Aboriginal children, discuss the enquiry into sexual abuse in the NT and the Australian Government response, and outline some of my thoughts about priority setting in child health.

HEALTH OF NT ABORIGINAL CHILDREN

Aboriginal people make up 2.4 percent of Australia's population, but of course this proportion varies by jurisdiction, with Aboriginal people making up a greater proportion of rural and remote than urban populations. Approximately one-third of the NT population is Aboriginal, and in remote areas the majority of people are Aboriginal. Remoteness is an important risk factor for poor health—for example, approximately six percent of urban Indigenous children in the NT are underweight compared to 15 percent of remote Indigenous children.

Hopefully, we are all aware by now of the appalling gap in life expectancy between Indigenous and non-Indigenous people in this country—approximately 20 years for men and 17 years for women. In fact, there is a gap in death rates at all ages—Aboriginal infants in the NT are more than three times as likely to die in the first year of life than non-Aboriginal infants, a trend which continues throughout life.

Although these data are dire, it is important to recognise that there have been some improvements. Aboriginal child (under-five years) mortality rates in the NT were approximately 27 per 1000 children between 1967-71, but fell rapidly to approximately eight per 1000 by 1982-86. This dramatic reduction was almost entirely attributable to improved medical care that saw children with diseases such as pneumonia and gastroenteritis evacuated from remote communities to hospitals in

Jonathan Carapetis

Darwin and Alice Springs. We should remember that these interventions were largely thanks to the incredible efforts of one man. Professor Alan Walker was for many years the only paediatrician in the NT, and can take the credit for saving hundreds of lives. Alan died earlier this year (2007) in Darwin. We all sadly miss this great man.

But of course, the poor health of Aboriginal children is not only reflected in mortality statistics. Overall hospitalisation rates are much higher for Aboriginal than non-Aboriginal children (90-fold higher for scabies, 50-fold for nutritional anaemia, and 30-fold for malnutrition) and even at the level of the primary care clinic, Aboriginal children are presenting at extraordinary rates with a range of illnesses, predominantly infectious diseases. Work recently completed by Menzies in the NT demonstrates that, by the first year of life in remote communities, children present on average once each fortnight to the clinic with an illness. It is no wonder that health services in remote communities have little time to devote to preventive care, when they are dealing with such a burden of acute illness.

THE AUSTRALIAN GOVERNMENT INTERVENTION

Of course, an additional group of statistics points to high rates of child abuse and neglect in Aboriginal communities in the NT, although under-reporting and various other factors mean that the statistics almost certainly only represent the tip of the iceberg. The Anderson-Wild report *Little Children are Sacred* outlined a range of measures to deal with the problem of child sexual abuse, but included in their first recommendation was the following statement: 'It is critical that (the Australian and NT) Governments commit to genuine consultation with Aboriginal people in designing initiatives for Aboriginal people.'

What happened subsequently has been well documented. There are many different views of the AGI, but there can be no doubt that consultation—with Aboriginal people, with non-Aboriginal people, or even with the NT Government—was almost completely absent before dramatic action was taken.

The components of the AGI were: alcohol, kava and pornography bans; quarantining welfare payments; linking school attendance to welfare payments; meals at school at parents' cost; child health checks; five–year leases to acquire townships; increased policing; work for the dole community cleanups; 'improved housing', market–based rents, normal tenancies; scrapping the permit system for common areas; and the appointment of managers to communities.

It should be noted that a few of these items have received fairly widespread support from some Aboriginal people. Indeed, measures such as alcohol and kava bans and meals at school were already voluntarily implemented in a number of communities. Most communities are also pleased to see greater numbers of permanent police on site. And there is no doubt that the AGI brought long-overdue national attention (and significant funding) to a range of endemic and dramatic problems in Aboriginal communities.

However, the negatives of the AGI currently far outweigh the positives. The absence of consultation with Aboriginal people, the lack of cohesiveness of the response, and the clear opportunism of the Government to bring in a range of agendas under the guise of dealing with sexual abuse are particularly galling (nobody has been able to make clear to me how removing the permit system and acquiring communal land in townships will help to reduce child sexual abuse). From a paediatrician's point of view, the child health checks just don't make sense. We already know what health problems children in remote NT communities have, and primary care services have been struggling for years to screen and treat children in these settings despite dramatic underfunding. Somehow the dispatching of numerous child health check teams around the NT made it seem as though there were no effective health services there already. This is clearly not true. The health checks performed to date (4800 as of 26 November 2007) have revealed nothing unexpected, and indeed have dramatically under-diagnosed a range of conditions (e.g. middle ear disease was found in approximately 30 percent of children, but carefully conducted research throughout the NT has consistently documented that 90 percent of children in remote communities have middle ear disease). Although it is difficult to argue that child health checks will do harm (once the Government resiled from its ridiculous initial stance that children would be mandatorily examined and that the aim was to detect signs of sexual abuse—a farcical and dangerous proposal), it seems to me that tens or hundreds of millions of dollars have been wasted that could have been spent providing comprehensive primary health care and better living conditions.

My take on the AGI to date? It is great that the nation has at long last noticed the 'emergency' in remote Aboriginal communities, and that governments are starting to commit the serious resources that will be needed. But if one were to look at the issues objectively and to devise a plan to deal with them, with some exceptions the AGI would not be that plan. Action needed to be taken, but not this action.

So the new Federal Government has an enormous challenge, but also an enormous opportunity. The time is right in this nation to devise a careful, well-funded, long-term range of strategies to deal with Aboriginal and Torres Strait Islander

disadvantage, and to do so in partnership with Aboriginal and Torres Strait Islander people.

NEW APPROACHES TO ABORIGINAL CHILD HEALTH

When I returned to the Menzies School of Health Research as director in 2006, I laid out a challenge to the staff. I pointed out that, from the earliest days, Menzies publications have almost invariably finished with a paragraph stating something like this:

> The ultimate solution to (x disease) lies in solving the issues of poverty, unemployment, poor housing and appalling educational outcomes. This will be difficult to do and will take a long time. In the meantime, our study has demonstrated important interventions that can help to alleviate the problem somewhat in the short to medium term…

Why are the big issues not the first paragraph rather than the last? At Menzies, we are continuing to do what we have always done well—high quality quantitative and qualitative research spanning the laboratory, clinical and public health domains—but increasingly we are trying to tackle the difficult but perhaps more important 'big-picture' issues.

When experts have attempted to quantify the determinants of health, the health care system usually can take credit for only about 25 percent, and biology for another ten percent. The remaining 60-65 percent is due to social and economic factors and the physical environment in which we live.

What can researchers offer beyond biology and the health care system? For a start, we can offer evidence. For an example, let me cite a recent study that Menzies can take no credit for. The Health Habitat study (Pholeros, Torzillo, et al) took teams to document the health infrastructure in more than 4000 houses in remote Aboriginal and Torres Strait Islander communities around the country, and even more importantly they also took people (plumbers, electricians, builders etc) who could fix a lot of problems on the spot. This incredibly important study documented very high rates of housing that is not compatible with healthy human existence (e.g. only eleven percent of houses were considered electrically safe, and only five percent had the infrastructure to store, prepare and cook food safely) but also documented that the majority of problems could be repaired on the spot. They also exploded the myth that Aboriginal people destroy their houses: only eleven percent of disrepair was due to damage by the residents, whereas 27 percent was due to faulty initial construction, and an amazing 62 percent was due to normal wear and tear and lack of maintenance. This is the sort of evidence we need. Sure, we need to build new houses in remote communities (and we need to make sure that they are high quality and built to last—let's not start considering flimsy kit homes or other cheap solutions), but we can also do a lot by fixing the housing stock that is already there.

Back to the children. Why have I focused largely on children, and child health? If you look at the statistics, it is clear that the majority of deaths in Aboriginal people occur in adulthood, and largely from chronic diseases. Doesn't this argue instead for a concerted focus on adults?

I say no. It is very difficult to change the trajectory of an adult who, by the teenage years or early adulthood, already has multiple risk factors for chronic disease. Of course, I am not arguing against the need for adult health programs, and the need to try to reduce the burden of risk factors such as smoking, alcohol and other substance misuse, obesity, poor nutrition, sedentary lifestyles, etc., but I am definitely arguing that it is much more cost-effective to focus on the next generation, on the kids.

> It is no wonder that health services in remote communities have little time to devote to preventive care, when they are dealing with such a burden of acute illness.

We now have all the evidence we need to prove that the vast majority of causes of morbidity and mortality in adulthood have their roots in early life. Some of these influences in early life are brief but leave permanent effects, and others occur over a longer period. The wonderful 1958 British birth cohort study elegantly demonstrated that children who were born with low birth weight (a marker of insults to the foetus in the womb) were left with permanently lower cognitive function—to the age of 16 years and beyond—compared to normal birth weight children. But much more important than this was the effect of social class, such that the affluent, low-birth weight children still performed well above average for cognitive function at age 16, whereas the poor, normal birth weight children performed well below average at the same age. In other words, there are many influences in the early years that have the potential to permanently damage the developing child's brain, but the most influential are those related to socio-economic circumstances.

What can we do about this? Again, this is where researchers can offer evidence. There are many potential interventions in the early years that can change the trajectory of a child, but two in particular are supported by solid, randomised controlled trial evidence. As a result, both of these are of great interest in Australia. The first—nurse-led home visiting in the first two years of life—is just beginning to be rolled out in Aboriginal communities, albeit with some uncertainties about how the proven American model can be adapted to these very different Australian circumstances. The second—two years of high-quality preschool education—has also been targeted by the new government as a priority for all Australian children. Actually delivering this to children in remote Aboriginal communities will be an enormous challenge.

Which brings me to my most important point. If someone had asked me ten years ago what would be the single thing we could do that would have the greatest effect on Aboriginal health, I would probably have suggested something like stopping smoking or immunisation. It is now clear to me that the correct answer is to give every Aboriginal child a good formal education.

Educational outcomes among Aboriginal children are a national disgrace, and they have flat-lined for at least the ten years that reasonable data have been collected. Only about one in five children in remote Aboriginal communities in the NT reaches the basic benchmarks for literacy and numeracy in grades three and five—benchmarks that more than 90 percent of non-Aboriginal children reach.

> Nobody has been able to make clear to me how removing the permit system and acquiring communal land in townships will help to reduce child sexual abuse.

As my friend Tess Lea says, 'these results ring-bolt Aboriginal kids to a permanent underclass'. This is the real crisis, and we need to base new approaches on the best possible evidence. We cannot accept approaches to Aboriginal and Torres Strait Islander educational reform that are based on anecdote or case series. Health researchers must accept that education is perhaps the most important determinant of health, and that we have something to offer. Health researchers can provide the rigor of high quality scientific research, but applied to educational research in partnership with educators. We also have decades of experience with the principles of evidence-based practice, and translating research findings into interventions. And of course, we can do what we know best—making sure that children are healthy, developmentally appropriate, and ready for school in the early years.

Let's not apologise for being interested in education, or believe that we should leave this solely to the educators. Remember, the most important educational research institution in the USA for many years—the National Institute of Child Health and Human Development—is part of the National Institutes of Health. I do not suggest for a moment that we should pretend to understand the field of education or pedagogy as the education experts do. Instead I propose that we begin a dialogue with the education sector to bring health and education research together. This is the real challenge for the next decade in Aboriginal and Torres Strait Islander health.

POSTSCRIPT—AUGUST 2008

Nine months have passed since I delivered this lecture. We continue to learn lessons about the AGI, and eagerly await the plans of the Rudd Government for the next stages. I suspect that the current review of the intervention to date will be unable to document any substantial positive impact, and that there is inadequate attention being paid to prevention (rather than diagnosis and treatment) of ill health. Although my concerns from last year remain—that we have yet to see a cohesive plan to deal with Aboriginal disadvantage—I am also more optimistic than I was then. The current Australian Government has taken the important steps of apologising to the Stolen Generations, and has set itself ambitious targets to close the gap in Aboriginal and Torres Strait Islander life expectancy within a generation. Exactly how they will do this is yet to emerge, but you don't get anywhere unless you set yourself goals.

In closing, I would like to point out that in delivering this lecture and writing this summary, I have joined the ranks of myriad whitefellas who pretend to be 'experts' on Aboriginal and Torres Strait Islander issues. I expect this rankles with the rapidly expanding cohort of real Aboriginal and Torres Strait Islander experts, who can speak for themselves. I have tried to confine myself to areas I know well, but if at times I strayed into polemic, I hope that at least it made sense.

2008 UMMS EVENTS

The Melbourne Medical School lecture and function for UMMS members will be held on the evening of 27 November at which Professor Doris Young, director of the Faculty's Graduate Programs Unit, and Professor Geoff McColl, director of the Medical Education Unit, will talk about the future of medical education at the University of Melbourne. Details are as follows:

THURSDAY 27 NOVEMBER

Commencing at 5.30 for 6.00 pm, the presentations will take place in the Sunderland Lecture Theatre. At 7.00 pm, UMMS members will move to the Harry Brookes Allen Museum of Anatomy and Pathology to discuss the evening's presentations informally, over drinks and finger food. Please RSVP on (+61 3) 8344 5888.

HONG KONG ALUMNI AND FRIENDS COCKTAIL PARTY

James Best, head of the Melbourne Medical School is pictured here (centre) with Hong Kong University's Vice-Chancellor Professor Lap-Chee Tsui and Professor Karen Lam at a function for Hong Kong alumni held in March this year.

A second function for Hong Kong alumni will be held on Friday, 5 December 2008 from 6.30pm on the 3rd Floor, Butterfields, 2/F-4/F Dorset House, TaiKoo Place, 979 King's Road, Hong Kong.

This occasion presents Hong Kong alumni with the opportunity to hear Professor Graham Brown, director of the Nossal Institute for Global Health, speak about work undertaken by the Nossal Institute aimed at combating infectious diseases in the Asia-Pacific region. Alumni will be able to meet and talk with Graham Brown about important developments in health in the region.

Further information: E: mdhs-alumni@unimelb.edu.au T: (+61 3) 8344 5888

STUDENTS' STORIES

THE JELLYFISH HUNTER
A MEDICAL STUDENT RESEARCH PROJECT

Ran Li

Broome Irukandji is one of a group of small box-type jellyfish that cause a potentially life-threatening envenomation syndrome

When I started my MBBS degree back in 2005, the University of Melbourne offered the only medical program in Australia that incorporated a compulsory year of research—the Advanced Medical Science (AMS) year. In fact, as an interstate student, the AMS program is the main reason I chose to study medicine at the University of Melbourne. I approached my research year determined to make the most of this opportunity.

One of my areas of interest in medicine is toxinology. I am particularly interested in venomous animals and the envenomation syndromes that they may cause. I was very privileged to have been accepted as an AMS student by the Australian Venom Research Unit and the Cardiovascular Therapeutics Unit in the Department of Pharmacology, under the supervision of Ken Winkel, Christine Wright and James Angus, dean of the Faculty.

My project investigated the venom of the 'Broome Irukandji' (Malo maxima), focusing on its cardiac and vascular pharmacology. 'Irukandji' is the colloquial name for several species of small box-type jellyfish (a mere few centimetres in length) that cause an unusual and potentially life-threatening envenomation syndrome. Every summer in Australia's tropical north, beach goers and divers alike are subject to the sting of such jellyfish. Many go on to develop the dreaded Irukandji syndrome, which may involve nausea and vomiting, severe muscle spasms, excruciating back pain and a potentially fatal increase in blood pressure.

As a part of my research, I was fortunate to have the opportunity to travel to Broome and Cairns over the summer to collect additional specimens for my project. Dragging a custom designed net through water surrounded by deadly jellyfish is quite an experience! In fact, our research caught the attention of the local newspaper and I ended up as front page news on the *Cairns Weekend Post*. This demonstrates the extent of public apprehension towards Irukandji syndrome in Far North Queensland. However, despite the severity of the syndrome and its infamous reputation in the tropics, remarkably little is known about the underlying envenomation mechanism or the causative species.

Recently, the pharmacological basis of a Queensland species of Irukandji (Carukia barnesi) was published by our group. However, Irukandji syndrome is not limited to Queensland waters and is in fact a particular problem in Broome – a popular tourist destination in Western Australia. No research has been published on the Broome species other than its original taxonomical description, and the suspicion that Malo maxima is responsible for Irukandji syndrome in Broome is purely anecdotal.

Furthermore, there is no specific antivenom available for Irukandji envenomation. However, recent clinical evidence has suggested that intravenous magnesium infusion appears to be a 'miracle' treatment for Irukandji syndrome, eliminating both the severe pain and the life-threatening hypertension, although this has never been investigated experimentally.

Accordingly, the aim of the project was to determine the basic pharmacological mechanism of *Malo maxima* venom on isolated mammalian tissues *in vitro*, and also to investigate the effects of magnesium in this context. My study provided the first analysis of venom from any jellyfish species suspected of causing Irukandji syndrome in Western Australia, and confirmed that Malo maxima venom causes effects consistent with Irukandji syndrome in vitro. The results also suggest that magnesium is highly effective in countering the effects of this venom. In addition, this study is the first to implicate the involvement of sensory neurotransmitters in Irukandji syndrome caused by any of the Irukandji species.

In a day and age where medical research and clinical medicine are becoming increasingly segregated, the AMS year provided me with invaluable insight and experience. It has strengthened my passion for research, and I plan to continue to pursue research alongside clinical practice in my career as a medical practitioner.

Ran Li, enjoying a Broome sunset from the water

PETER G JONES ELECTIVE ESSAYS

The medical elective can be a seminal experience in the life of a medical student. For some, it crystallises their ambitions, for others, it opens up unexpected opportunities. It is invariably an experience which warrants reflection and is worth recording. Recognising this, the University of Melbourne Medical Society offers prizes to medical students for essays describing their elective experiences. The prizes are named in honour of Peter G Jones (1922-1995), paediatric surgeon and founding editor of *Chiron*. This year, four prizes were awarded, to: Jennifer Jamieson for her essay 'Welcome to South Africa, my friend…'; Cameron McPherson for his essay 'Maybe Oscar Wilde was right…'; Jonathan Epstein for his essay 'Kissing it Better' and Daniel Mason for his essay 'African Life'. All essays submitted for consideration for the prize are published on the Melbourne medical school's website at: www.medicine.unimelb.edu.au/umms/publications/chiron/pjones essays. Published in this issue of *Chiron* are: Jonathan Epstein's 'Kissing it Better' and 'Sex and the City' by Angela Wilson.

SEX AND THE CITY. HIV MAKES A COMEBACK IN MELBOURNE'S GAY COMMUNITY

Angela Wilson

To many medical students, HIV/AIDS is a pandemic associated with traumatised sub-Saharan African countries or regions of South-East Asia where intractable poverty imposes a life sentence of prostitution on the most vulnerable. With only 15,000 cases of HIV in Australia and New Zealand, we could be forgiven for forgetting about its quiet perseverance in our own backyard. Nevertheless, HIV/AIDS is making a comeback and it seems that Victoria sits on the front line of its resurgence.

The Victorian AIDS Council estimates that there are 3500 Victorians living with HIV/AIDS. New diagnoses steadily declined after 1994 to a low of 140 in 1999. Since then, new diagnoses have steadily increased. Every week, five or six Victorians are diagnosed with HIV, most of them gay men aged between 35 and 45.

I spent my elective at the Alfred Hospital's Infectious Diseases Unit and Fairfield House, the state referral centre for HIV/AIDS. For those unfamiliar with Melbourne's proud ID heritage, Fairfield House is named after the Fairfield Infectious Diseases Hospital, the world-renowned centre for the study and treatment of infectious diseases which opened in 1904 and closed in 1996, its services split between the Royal Melbourne and Alfred hospitals.

Fairfield House is a 15-bed subacute facility for managing HIV/AIDS patients from Melbourne and regional Victoria with strong links to that world-class institute for the study of public health, HIV and Hepatitis C, the Burnet Institute. People living with HIV/AIDS stay for six or eight weeks at a stretch, and receive an individually tailored mix of care from physicians, psychiatrists, dieticians, physiotherapists and social workers.

The first HIV positive patient I met during my elective was a young gay man, who had presented to the Alfred with a life-threatening case of *Pneumocystis jirovecii* pneumonia (PCP). He had been intubated and nursed in the intensive care unit until his lungs were recovered enough to transfer him to the acute infectious diseases ward, where he remained in recovery for several weeks, pale, emaciated and on high flow oxygen. He was in his twenties and had been diagnosed with HIV for the first time on that admission.

Despite the enormity of nearly dying, spending months in hospital and being diagnosed with arguably the most stigmatised chronic disease in existence, he remained positive. He was grateful for the care he'd received and rationalised his HIV not as something bad, but as something unique about him. Finding the silver-lining of HIV is not something I think I could do, but in some ways, his attitude was not unique. I saw this tangible sense of acceptance amongst a number of the other patients.

Perhaps, after twenty years of living with HIV/AIDS and safe sex messages at a time when HIV/AIDS has been reduced to another treatable chronic disease, ambivalence and risk-taking was inevitable. I quietly wondered about this. Were these residents of Fairfield House really any different to the rest of the population, who choose to ignore or accept risks we, as medical professionals, see as unacceptable?

One of the patients at Fairfield House during my elective had been diagnosed with secondary syphilis—a medical rarity in a Melbournian man in his late thirties. He had been in for a course of IV benzylpenicillin and the characteristic rust-red rash on his palms and soles (which I had only ever seen in textbooks) was beginning to fade. He spoke with a quiet, conspiratorial confidence about his situation, 'Really, monogamy is so overrated'. Every new diagnosis involves not just the patient, but the person who passed the virus to them. Stigmatisation and rejection of HIV positive men within the gay community has led to a culture of non-disclosure in some circles. Also, many HIV positive men, aware of what their viral load is, may make decisions about unprotected sex based on a risk assessment of their own infectivity.

To combat the growing rate of HIV diagnoses, the Victorian AIDS Council has planned a new campaign—arguably more confronting than the 'Grim Reaper' advertisements of the 1980s. The program has been adapted from a similar campaign by the AIDS Council of NSW which has shown promise in catching the attention of gay men having casual, unprotected sex, who are at highest risk of contracting or transmitting HIV.

Opening the lines of communication about HIV between gay men and dispelling the myths of outwitting the Grim Reaper will be central to subduing the next wave of HIV diagnoses in Melbourne. My elective highlighted to me the human factors that underlie every condition, the dynamics that lead people to put themselves at risk of HIV are no different to the ones we find within ourselves and our patients—a fear of rejection, poor communication, bad choices and a belief that we can outwit the odds.

KISSING IT BETTER

Jonathan Epstein

Jonathan Epstein

My four weeks in the Hospital Britanico, in a very un-British suburb in Buenos Aires, was a fantastic lesson in the proper greeting of one's fellows, a testament to Norbert Elias, my favourite sociologist, and a practical demonstration that perfect coffee can be made entirely out of substitute ingredients. The beverage in question consisted of instant coffee, milk powder and liquid sugar substitute, and was carefully prepared each morning by Celeste, a resident, for the rest of the team, to be drunk during our post-ward round meeting dedicated to writing up the clinical notes. My role, as novice Spanish-speaker, was to write out the simple cases on a scrap of paper and, once thoroughly checked by Celeste or the intern Gaston, transcribe my creations to the official records. I enjoyed those coffee breaks, not only as a chance to clarify what little of the morning cases I could understand, but also as they made me feel connected to the close team of interns, residents and consultants who presided over ward Nightingale.

Apart from the white coats, lack of air conditioning and the greeting kiss, morning rounds closely resembled their Australian counterparts. This later difference, a distinctly Latin American phenomenon, was the most discordant to my antipodean sensibilities. The kiss was simply executed, on one cheek only, unlike its double Brazilian cousin, and was offered to any member of the opposite sex on the slightest pretext. Thus I would begin each round by kissing every female member of our team, from the interns up to the consultants, often leaning over desks crammed with medical records to do so. Likewise, it was common for females to kiss other females; men, however, only kissed other men once friendship was firmly established. By my first coffee break, I had learnt that the diligent efforts to control infection, which made hand disinfectant available by every bed, did not prevent this cultural practice spreading to kissing the families of one's patients and, as long as blood borne viruses were strictly ruled out, the patients themselves.

The miniscule coffee room served a double purpose; in fact, located at the back of the ward next to several beds, the practice of drinking coffee inside it was rather discouraged and precautions had to be taken so patients would not find out. Once the mugs and liquid sugar had been carefully cleaned away, the loved-ones of the sickest patients would spend a gruesome ten minutes inside with either Celeste or Gaston who, in this cupboard of relative privacy, would outline to them the downward progress of their family members and steel them to prepare for the worst.

They took Anna's husband in there, a few days before she died of breast cancer, and I was reminded of Norbert Elias, who I had not thought of since my time in aged care. Anna was 32 and, in a dark room at the back of the ward, dying from disseminated cancer of her breast, surrounded by get well cards from friends and relatives and photos of herself before she lost her hair and so much weight you could see all her bones. We monitored her progress each day and did the best we could, which mainly consisted of slowly withdrawing more and more treatment. But there was not much that could be done, and every day she seemed to sink further into her pile of cushions.

When Norbert Elias, the German sociologist, was in his late eighties he wrote a book called *The Loneliness of the Dying*. After a life of rational deliberation on the formation of modern society, he poignantly turned to the issue of his own death in the same rational manner, detailing a register of the horrors and palliation of dying in the late twentieth century. His gravest concern was not physical suffering, masterfully managed by modern medicine, but was with the progressive withdrawal of those close to death to a realm behind the scenes of social life, where they died alone in a hospital ward isolated under a barrage of medical equipment, ward rules and visiting hours. His fear was loneliness.

I was reminded of Elias every morning as I watched Anna's decline. I would hover in a corner of her dark room, next to the cards and the photos, as Celeste or Gaston, but usually Celeste, bent over her for what little examination was required. Usually Anna would try to say something, try to tell whoever would listen about the pain she was in, and her husband would elaborate with details from the night before. After the visit, we would huddle in a corner outside her door. On one occasion an intern had to go to the next room, which luckily was empty that day, and cry in the bathroom.

Anna also made me think again about that custom which had first appeared confronting, and then simply amusing. For every morning, before leaving for the coffee room, in a gesture that seemed a deliberate disavowal of isolation, both a bestowal and recognition of Anna's persisting humanity, Celeste, like a mother to a hurt child, would bend slowly down and kiss her.

Buenos Aires street

MELBOURNE MEDICAL SCHOOL NEWS

THE JACK BROCKHOFF CHILD HEALTH AND WELLBEING PROGRAM

Every child deserves the opportunity to live a full and healthy life. Poor health and wellbeing in childhood are powerful indicators of poor life outcomes whether as a result of adult diseases such as diabetes and heart disease, chronic disability, diminished quality of life or early mortality. Child health is a great predictor of future economic status, educational achievement and social engagement and inclusion. Addressing inequality in child health is imperative, not only for the children of today, but for the adults they become in the future—it is a critical foundation stone for building a fair and robust society.

Over the past ten years a body of evidence has been established, clearly identifying where child health inequalities are occurring and why. Other health issues are less clear, requiring a range of complex and creative interventions at a community level which are then evaluated to understand what works, for whom, how, why and at what cost.

Just last year, the University of Melbourne, identifying child health and wellbeing as an important priority, recruited Elizabeth Waters and her team to address these issues through comprehensive, evidence based programs delivered in partnership with the community. This major program of work was initially supported by the Vice-Chancellor and the Faculty of Medicine, Dentistry and Health Sciences with strategic research initiative funding.

The Jack Brockhoff Child Health and Wellbeing Program will deliver tangible improvements in health and wellbeing for children and create a foundation for ongoing responsive and relevant child health initiatives. The program will work with rural and urban communities to assess and analyse child health and wellbeing; identify key problems—such as obesity, poor dental health, accidents and morbidity; and develop and implement intervention strategies. The program's findings will provide the evidence to make systemic changes necessary to significantly improve child health and wellbeing.

The three research program themes—child health equality; child health promotion and disease prevention; and child mental health—are underpinned by a program designed to formally discover, assemble and combine scientific evidence relevant to interventions promoting child health. The program facilitates the translation and exchange of this knowledge to and with those who need it to conduct effective, 'real world' programs, principally through the global Cochrane Collaboration.

It will work across the University and with affiliates such as the Royal Children's Hospital, the Murdoch Childrens Research Institute, and the Royal Children's Hospital Education Institute. Strong existing partnerships with the Deakin University Public Health Research Cluster, regional and metropolitan local councils, schools, pre-school centres and community organisations will ensure the program's relevance to children and families.

The program will focus on the risk and protective factors for child health disadvantage in core areas and, in particular, on interventions where the early investment in childhood translates into the best returns in later life. The integration of equality, mental health, health promotion and disease prevention is essential to creating healthy communities, strong families, and resilient individuals.

A large number of research programs in child health and wellbeing have already been developed by Elizabeth Waters and her team. For example 'fun 'n healthy in Moreland', is a randomised controlled trial of a five year health promotion and obesity prevention involving 24 primary schools and over 8000 children and their families. The program is a partnership between the Moreland Community Health Service and the University but schools are the decision makers. Each school determines what strategies they implement in their community to increase healthy eating, physical activity and self esteem. Support and guidance are provided to develop multi-strategic, evidence-informed and sustainable approaches. Strategies have commonly included playground re-design, water drinking policies, reviews of canteen menus and morning exercise sessions and fruit breaks.

Elizabeth and her team are also involved in evaluation of the Stephanie Alexander Kitchen Garden Program. This is an innovative school-based gardening and cooking program conceived by Australian

James Guest (MBBS 1941) with a student from St Matthew's primary school in Fawkner at the launch of the Jack Brockhoff child health and wellbeing program.

chef and food writer, Stephanie Alexander, introduced to 40 Victorian primary schools and 150 schools throughout Australia. The evaluation will assess the impact of the kitchen garden on the school and participating students' wellbeing, learning and attitudes towards fresh, seasonal and healthy food. It is a longitudinal study including a sample of six program schools and six matched comparison schools. The theme of child mental health is addressed through a number of programs. Of particular relevance is the Indigenous child health and wellbeing 2005-2008 study. This study sought to identify dimensions of wellbeing from the perspective of Aboriginal parents in urban locations. It is a partnership between the Victorian Aboriginal Controlled Community Organisation, the Victorian Aboriginal Health Service and the University.

SCHOLARSHIPS FOR HONOURS STUDENTS

When Francis Elizabeth Thomson died in 2006, her will provided that a trust be established, the annual income from which was to provide scholarships to students of the University of Melbourne Faculty of Medicine, Dentistry and Health Sciences, as recommended by the dean. The distribution from this trust has enabled us to offer 28 honours scholarships of $5000 each for 2009 and approximately that number each year into the future.

Our extensive research programs in biomedicine and the health sciences are crucial to our ability to deliver superior medical and allied health education programs and train the research leaders of the future. Honours programs offer an important avenue for graduates wishing to explore the potential of a career in research. Students undertake an original research project, with the opportunity to be supervised personally by one of our many world-class researchers. Many also get the opportunity to present their findings to an even wider audience, either by attending at a national or international conference, or having their work published.

This will greatly assist us in attracting and encouraging students to pursue honours and, hopefully, continue with further higher degree studies in the faculty.

APPOINTMENTS AND DEPARTURES

Jim Best (right) with Bernard Neal at the MD dinner this August. Photo Gavin Blue

Professor James (Jim) Best has been appointed to head the Melbourne Medical School as it enters a new and challenging phase of development.

Jim has a long association with the University of Melbourne. He graduated MBBS in 1972 before training in endocrinology at St Vincent's Hospital then in diabetes research at the University of Washington, Seattle, USA .

He worked as an endocrinologist at St Vincent's from 1982 to 1989 then joined the Department of Medicine at St Vincent's as deputy head. He was appointed as professor of medicine and head of department in 1999. He has also been deputy dean of the Faculty from 2004 to 2006 and subsequently associate dean (resources).

Jim has taught extensively during his career, especially on the topic of diabetes and metabolism, as well as on the medical interview. He was actively involved in development of the current MBBS curriculum, particularly the subject 'Nutrition, Digestion and Metabolism'. His research has involved physiological and molecular studies of glucose disposal, as well as studies of lipid biochemistry and epidemiological and clinical studies of risk factors for cardiovascular disease in diabetes. He is CIA for the NHMRC Centre of Clinical Research Excellence in Clinical Science in Diabetes.

Jim has been on the board of directors of three different health services and a medical defence organisation. In 2006 he was appointed to the council of the NHMRC and chair of the NHMRC Research Committee.

Professor Hugh Taylor AC left the Ringland Anderson Chair of Ophthalmology and the Centre for Eye Research Australia at the end of last year to take up his appointment as inaugural Harold Mitchell Chair of Indigenous Eye Health and lead our new Indigenous Eye Health Unit.

This significant initiative in Aboriginal health is offering to assist the Federal Government develop a targeted and dedicated solution to eliminate trachoma from Australia's Indigenous communities.

Hugh took up the Ringland Anderson chair of ophthalmology in 1990 and directorship of the Centre for Eye Research Australia in 1996. He is a world authority on trachoma and has chaired or served on many national and international advisory committees and boards involved in eye health, receiving many awards for his work in ophthalmology.

Made a Companion of the Order of Australia in 2001, in part for his contributions to the prevention of river blindness and to eye health in Indigenous communities, Hugh's research focuses on blindness prevention strategies, infectious causes of blindness and the intersection between medicine, public health and health economics.

Successor to the Ringland Anderson Chair of Ophthalmology, and new head of the Department of Ophthalmology and Centre for Eye Research Australia, is Professor Tien Wong.

Tien, a graduate of the National University of Singapore, trained in clinical ophthalmology at the Singapore National Eye Centre and in medical retina diseases at the University of Sydney. He holds an MPH and a PhD from the Johns Hopkins University School of Public Health, USA, and undertook research fellowships at the Dana Center, Wilmer Ophthalmological Institute, Johns Hopkins University School of Medicine and at the University of Wisconsin, Madison.

Tien's clinical and research expertise is in the area of retinal vascular diseases, including diabetic and hypertensive retinopathy, retinal vein occlusion, and age-related macular degeneration with particular interest in the relationship of retinal vascular signs as predictors of cardiovascular disease.

Professor Stephen O'Leary has been appointed to the William Gibson Chair of Otolaryngology, based at the Royal Victorian Eye and Ear Hospital.

Stephen gained his PhD at Melbourne under the mentorship of Professor Graeme Clark and undertook post-doctoral research at Oxford University, UK, and the University of Utrecht, in the Netherlands. He has worked both as a surgeon and a scientist at the University, the Bionic Ear Institute and the Royal Victorian Eye and Ear Hospital, since 1999. Known for his clinical and research activities in ear disease, hearing and balance, Stephen is recognised for his contributions to auditory neuroscience, and in particular for his research on the bionic ear, and inner ear regeneration, protection and repair. He led the development of a virtual reality simulator to teach ear surgery in collaboration with CSIRO, which was recently licensed for commercial development to an Australian company, Medicvision.

Hugh Taylor with Jilpia Jones at the inaugural meeting of the Indigenous Eye Health Advisory Board Photo Michael Silver

Early this year Professor Graham Brown, foundation director of the Nossal Institute for Global Health, stepped down as James Stewart professor and head of the Department of Medicine at the Royal Melbourne Hospital/Western Hospital to lead the Nossal Institute on a full-time basis.

A 1970 MBBS graduate, Graham's unique medical career has spanned nearly 40 years of clinical medicine, basic and clinical research, both nationally and internationally. His commitment to public health, particularly in developing countries, has been extraordinary and inspiring. His first seven years after graduation were spent working in the public health department of Papua New Guinea, and he

Graham Brown

lectured in medicine at the University of Dar Es Salaam in Tanzania, 1975-1977.

This early exposure to public health in developing countries had a profound influence on Graham's medical training and career. It influenced his interest in infectious diseases, his PhD project at the WEHI and his dominant 25 year research career in cell biology of malaria and vaccine development, which culminated in 1996 when the Royal Melbourne Hospital was selected as the inaugural Victorian Infectious Diseases Service (VIDS), taking responsibility for many services after the closure of Fairfield Hospital.

Graham's extraordinary research career has seen him publish over 200 papers in peer reviewed journals, mentor 15 PhD or MD students, and VIDS has supported advanced trainees in infectious diseases. He has served on national and international editorial boards, and university committees. He has been honoured with numerous awards and is a much sought after keynote speaker at national and international meetings.

An inspiring teacher, Graham's mentor program, run with Geoff McColl, for medical students, and his commitment to RACP basic physician training and clinical exams, bear testament to his role as the 'professor educator'.

The Nossal Institute for Global Health operates on three key frontiers: program development, research and training. These fields of operation will be amply met by Graham's commitment to health equity, his formidable background in research, and his passion for training global health leaders for the future. He maintains a

presence in the department with research roles in the malaria laboratory and VIDS.

In November last year, Glenn Bowes left the Department of Paediatrics at the Royal Children's Hospital to take up his appointment as associate dean (advancement) in the Faculty of Medicine, Dentistry and Health Sciences.

Glenn is a medical graduate who trained in respiratory medicine. His PhD from Monash University, in the area of foetal respiratory physiology, was followed by a postdoctoral fellowship at the University of Toronto studying the control of breathing during sleep. After some time as director of respiratory services at the Alfred Hospital in Melbourne, where he developed Australia's first adult cystic fibrosis program, Glenn was recruited to the Royal Children's Hospital (RCH) Melbourne. At the RCH, Glenn established the Centre for Adolescent Health, the nation's first clinical, academic program in youth health, and became the University's inaugural professor of adolescent health. During his 16 years at the RCH Glenn held a range of executive leadership roles including chief medical officer, executive director and, more recently, Stevenson professor of paediatrics and head of the department of Paediatrics.

Glenn has served on the boards of many organisations committed to serving children and young people. He is an elected member of the council of the University of Melbourne and has taken on leadership responsibility for a portfolio of functions including communications, alumni relations, marketing and fundraising in this new role.

Julie Bines, the Victor and Loti Smorgon professor of paediatrics added leadership of the Department of Paediatrics to her role after Glenn Bowes' departure, acting in the position for approximately nine months.

A paediatric gastroenterologist, Julie heads clinical nutrition at the Royal Children's Hospital and the Intestinal Failure and Clinical Nutrition Research Group at the Murdoch Childrens Research Institute.

She is an international authority on the safety of rotavirus vaccines and a member of the Steering Committee for Diarrhoeal Disease Vaccines, World Health Organisation. Julie leads the RV3 rotavirus vaccine program in the NHMRC Centre for Clinical Research Excellence in Child and Adolescent Immunisation and has been heading a team of scientists from the University and Murdoch Childrens Research Institute to develop a neonatal rotavirus vaccine to prevent rotavirus disease from birth.

Paul Monagle recently left the Department of Pathology to take up new appointments as Stevenson professor and head of the University Department of Paediatrics and director of haematology, at the Royal Children's Hospital.

A 1988 graduate of Monash Medical School, Paul worked as a research fellow in the Department of Paediatrics at McMaster University, Hamilton Ontario, completing a Masters of Science (Health Research Methodology) before returning to Melbourne to the Women's and Children's Health Care Network where his rebuilding of the network's laboratory led to considerable improvements in quality systems, clinical interfacing, management and financial accountability.

In 2001 Paul was awarded the RCH gold medal, the youngest ever recipient, for his efforts in dealing with the organ retention after autopsy issue. He is an active educator, involved in undergraduate and graduate teaching.

Paul is a reviewer for many international journals and has published extensively in the fields of developmental haemostasis and paediatric thrombosis and anticoagulation. He is principal investigator of the Fontan A study, the only currently open multinational RCT of anticoagulation in children with cardiac disease, and has significant international collaborations.

Recognised internationally for his clinical service, Paul currently chairs the American College of Chest Physicians antithrombotic guidelines paediatric chapter, and is co-chair of the International Society Thrombosis Haemostasis paediatric subcommittee. He is a director of the Murdoch Childrens Research Institute and Royal Children's Hospital Foundation.

Paul is married with four children and spends all his spare time driving his children to their respective sporting competitions.

Geoff McColl, professor of medical education and training, is the new director of the Medical Education Unit in the Melbourne Medical School.

Geoff graduated MBBS/BMedSc from Melbourne in 1985, trained at the Repatriation and Austin Hospitals and specialises in rheumatology. His PhD, examining antigen-specific immune responses in patients with early rheumatoid arthritis, was undertaken at the Walter and Eliza Hall Institute. He is currently president of the Australian Rheumatology Association and a member of the Pharmaceutical Benefits Advisory Committee.

As senior lecturer in the Centre for Rheumatic Diseases at the Royal Melbourne Hospital, Geoff examined the efficacy of patient self management programs and coordinated trials of new drugs for the treatment of patients with arthritis.

Geoff moved to the Medical Education Unit from the position of clinical dean at the RMH/WH clinical school, which he had held since 2001. He has also been associate dean (academic) of the Faculty since 2006. His Master of Education, completed this year, examined how clinician educators teach diagnostic reasoning to medical students.

Geoff's attention is currently focused on the development of the new graduate medical program and continuing his research in the area of diagnostic reasoning.

Geoff McColl

A VISION FOR THE FUTURE

THE NEW GRADUATE MEDICAL COURSE AT THE UNIVERSITY OF MELBOURNE

Geoff McColl

Medical students in the Sunderland Lecture Theatre

Picture this scene. A hot February morning in 2011, and 330 eager new medical students are filing into the Sunderland Lecture Theatre in the Medical Building of the University of Melbourne. Eventually, when all the students are seated, a hush falls over the room and the dean walks up to the podium to deliver his welcome address. These students are in the vanguard of a new and exciting medical course, carefully aligned both to their learning needs and the ever changing requirements of the health care system.

To have gained entry has been a triumph of achievement in itself. All students have completed a prior academic degree, many at the University of Melbourne where, in addition to gaining the requisite bioscience knowledge to start the course, they have explored a broad range of other academic fields. Although all these students have demonstrated academic excellence and the personal qualities and aptitude appropriate for a medical career, they come from a wide variety of social backgrounds, from all around Australia and many overseas countries. The dean begins his address by congratulating the assembled students and welcoming them to the Faculty.

Although built on the traditions of one of Australia's most highly regarded medical courses, the course these students are anticipating is exceptional. First, it will be taught at a higher academic level (a master's level) with a program that assumes students bring prior specific bioscience knowledge and a mature learning style to their first day. This academic elevation of the course means the students will graduate with a Doctor of Medicine (MD), an increasingly common nomenclature throughout the world.

To obtain these academic outcomes the course structure will be very different to other medical schools. The four–year program will be divided into four phases and provide not only the essential building blocks of medicine but an opportunity to explore a clinical or research area in depth.

Phase one, based at the University, will be delivered over one intensive year and combine case-based integrated learning with discipline specific programs in anatomy, physiology, biochemistry, microbiology/immunology, pathology and pharmacology. Early clinical experiences and contextual learning in the enabling social and psychological sciences will also be a feature of this year. In addition, the bioscience curriculum delivered in phase one will be reinforced and explicitly built upon in subsequent phases of the course.

Phase two is a clinical program, delivered over two years in the University's established and new clinical schools. The clinical placements will acknowledge the importance of learning medicine in a variety of environments and from teachers with different expertise. These clinical years will focus on the patient as the centre of student learning and use our newly developed Curriculum-Connect© e-learning platform which seamlessly connects patient data to the student's prior experiences and learning as well as new evidence-based practice resources. Critical areas such as clinical reasoning, professionalism, clinical simulation and cultural competence will be highlighted during this phase, enhancing the students' ability to function in a contemporary health care environment.

The principles of the University's new Melbourne Model have particular significance in the development of phase three of the course during which students undertake comprehensive study in a particular area of medicine, culminating in the production of a scholarly document (e.g. minor thesis, research paper, quality audit, clinical case series). For some students this could be an opportunity to study clinical programs aligned to those of the professional colleges with the potential to gain credit towards basic training programs. Likewise, international students might focus on acquiring skills most useful for future careers in their home countries.

In phase 4 of the course, students will build on their medical knowledge and skills with programs that both prepare them for internship and anticipate development for future key roles in health care provision or research.

This medical course will be enhanced by an annual medical student conference, attended by all year levels, in which students will attend presentations and discussions by leading international researchers and clinicians, and participate in specific workshops to develop their academic potential.

As the dean completes his description of the new course he concludes by reminding the students of their responsibilities to themselves, their families, the University and the community at large as they set their feet on the path of those who have gone before. He then steps away from the podium and the respectful hush is transformed into a growing chorale of excited voices, eager to get on with it!

Geoff McColl (BMedSc 1984, MBBS 1985, PhD 1997) is professor of medical education and training and director of the Medical Education Unit.

To keep abreast of the development of the new medical course at the University of Melbourne go to: www.meu.medicine.unimelb.edu.au

A FAREWELL TO THE RUSSELL GRIMWADE BIOCHEMISTRY BUILDING

Paul Gleeson, Head, Department of Biochemistry and Molecular Biology; Professor, Bio21 Molecular Science and Biotechnology Institute, University of Melbourne

The Bates Smart McCutcheon drawing from the plans for the Russell Grimwade School of Biochemistry

On 13 September 2007 the Department of Biochemistry and Molecular Biology bid an official farewell to the Russell Grimwade School of Biochemistry. Within a few days, the doors were locked and the building became a demolition site. Paul Gleeson takes the opportunity created by this event to reflect upon on the extraordinary activities that have taken place within the building's walls over a period of some 50 years, activities which have had a major impact on shaping biochemistry in Australia.

We shape our buildings then after that they shape us. Winston Churchill

As I put pen to paper the last remaining sections to the entrance to the Russell Grimwade School of Biochemistry building at the University of Melbourne are under the wrecker's hammer. The building on Royal Parade is soon to be razed and will become the footprint for a new neurosciences institute.

The Department of Biochemistry and Molecular Biology is now split across two sites: its research activities largely relocated to the Bio21 Institute and teaching activities to the Medical Building.

The Russell Grimwade School of Biochemistry was the first building dedicated to a scientific discipline constructed at the University after the Second World War. It was the first building on the south-west corner of the campus which, prior to its construction, was largely open sports fields. It was also the first building in Australia dedicated to the then emerging discipline of biochemistry, its construction and maturation paralleling the emergence and blossoming of the discipline.

In 1944, Sir Russell Grimwade made a gift of £50,000 to the University to go towards a new home for biochemistry. Victor Trikojus had recently taken up the appointment as the second chair of biochemistry, heading a department which then consisted of one full-time lecturer, one part-time lecturer, two demonstrators, two technicians and one administrative staff member. He led the department for an amazing 25 years and was principal driver in creating the Russell Grimwade School of Biochemistry, nurturing all stages of the process: design, fundraising and construction.

There were extraordinarily long delays during which biochemistry was scattered across four sites. A great deal of difficulty in deciding the site for the new building was finally ended when, with the lobbying of Pansy Wright, the site on Royal Parade was chosen: a tennis court flanked by hockey fields. The architects were Bates, Smart and McCutcheon who, according to Trikojus' biographer, became 'the victims of Trikojus' pursuit of perfection!'[1].

The building was erected in two stages. Stage one, opened in 1958 and consisted of the first two floors, used primarily for teaching. Stage two included the upper three floors and penthouse, and was opened in 1961 by Sir John Eccles, neurophysiologist, president the Australian Academy of Science, and soon to become nobel laureate for physiology/medicine[2]. The penthouse included a mechanical plant room, a toxic laboratory and a general laboratory that housed the Sugar Research Unit of CSIRO and included Harald Hatt, a polysaccharide chemist, and Richard Jago, an enzymologist. Trikojus was passionate about translating practical outcomes from biochemical research and it is likely that the inclusion of CSIRO activities was to provide a bridge between these activities.

The advanced laboratory and large lecture theatre, subsequently named after Trikojus, opened in 1966. The total cost of the building was approximately £700,000. Estimated costs to demolish the building are approximately $5m.

The department flourished in its new building rapidly expanding its research and teaching activities. Between 1958 and 2007 more than 25,000 undergraduate students (science, medicine, dentistry, agriculture, optometry) have been trained in biochemistry and approximately 500 postgraduate students have completed MSc and PhD degrees. Numerous young biochemists established independent careers within the building, many subsequently going on to become academic leaders around the country. For example, Pat Carnegie became foundation professor of biotechnology at Murdoch University in WA; Bruce Stone the foundation professor of biochemistry at La Trobe University in Victoria; Peter Dunkley was head of medical biochemistry at the University of Newcastle; and Michael Birt, head of biochemistry at ANU then vice-chancellor of the University of NSW.

Students at work in one of the building's teaching labolatories

At the farewell celebration a number of those present shared their reminiscences. In 1960, Beverley Bencina entered the second year teaching labs in the new building and fell in love with biochemistry. Still teaching in the department today, Beverley recounted those early undergraduate practical classes, where the second year group of 40-50 students performed their experiments under the supervision of Mary McQuillan. If lessons got a little weary it was always easy to get distracted by watching the hockey games through the windows on the south side of the classroom. In Beverley's third year BSc there were 24 students in the practical classes, held in the Young laboratory on the ground floor under the supervision of Jack Legge, Bruce Stone and Frank Hird. The range of practical exercises included the interminable Warburg manometer measurements and visiting the animal house on the fourth floor for the rat dietary experiments. As a special treat, at the end of the year, students were invited into the staff tea room for lunch and taken up to the roof of the building by Trikojus, to check out the wonderful views of the city.

One of demonstrator Beverley Bencina's prac students from the middle 1960s was Mary-Jane Gething (head of department 2000-2004). Mary-Jane recalled her very positive experience of the biochemistry lectures, particularly the third year lectures which included recent research advances, such as the latest mechanism of chymotrypsin action. When the honours year, which had lapsed in 1959, was re-established in 1968, the class included Tony Burgess, Richard Simpson and Geoff Howlett. Mary-Jane Gething was in the honours class of 1969 along with Elizabeth Blackburn and Barbara Ellis (Howlett). The honours students were housed together in a single laboratory at the western end of the second floor. She recounted Trikojus giving the group of honours students a working over after walking in to find all the students sitting on the benches!

The department has a proud tradition of providing outstanding undergraduate and postgraduate training and Mary-Jane warmly recalled the wonderful training she and her fellow students received, in particular, that she learnt how to design experiments and, most importantly, include all the appropriate controls. Indeed, these skills of experimentation ensured that Australian biochemists were strongly sought after by overseas laboratories!

Bill Sawyer (head of department, 1983-1986) arrived in the department as a lecturer in 1968. He had previously encountered the Russell Grimwade building as an undergraduate agriculture student where his practical classes were under the guidance of Frank Hird and a young post-graduate student, Barry Davidson. Bill recalled the strong collegial atmosphere and, in particular, support for young staff. As a young lecturer he taught medical students in the Young laboratory (named for William Young, foundation professor of biochemistry) with Jack Legge, where he had devised experiments to measure the O^2 binding curves to haemoglobin. Lindsay Rayner, who has run the undergraduate practical laboratories for 40 years, was involved in the finicky calibration of the apparatus used for these experiments. In 1974, Bill was instrumental in introducing the use of computers in laboratory sessions, and carried out one of the first experimental assessments of computer-aided teaching in the University.

Dick Wettenhall, who took over as head in 1988, commented on the strong family feel to the department that had been cultivated over many years and reminisced on the great changes in the University during his period as head. One change was the introduction of the performance appraisal process. On one of his first appraisals, Max Marginson admonished Dick for not participating in a greater number of University House activities! The department had a great tradition in University House involvement, with many past presidents being staff from the department. Dick also highlighted the pioneering developments in DNA sequencing and protein structural determination in the department during the 1990s.

A lasting memory of the Russell Grimwade building for Dick was the great pride on entering the building as to him it was a place to be revered. For many it is with some sadness to consider that the building has disappeared. Of course, it's not about the bricks and mortar, but about the people and their activities and interactions within the walls of the building over many decades. The bricks and mortar provide a physical context to house the memories of many achievements that have influenced so many careers. As the building disappears, hopefully this article will go some way towards sustaining those memories for many years to come.

With thanks to my department colleagues for their contributions in gathering the background information and photographs, to Bruce Stone for sharing his insights concerning the early period of the building, and to Jacquie Munro-Smith for assistance with the manuscript.

A similar article has also been published in the *Australian Biochemist*.

1. Humphreys, R (2004) in *Trikojus: a scientist for interesting times*, pp 82-84, Melbourne University Press

2. Trikojus, V. M (1961) *Nature* 191, 1238-1240

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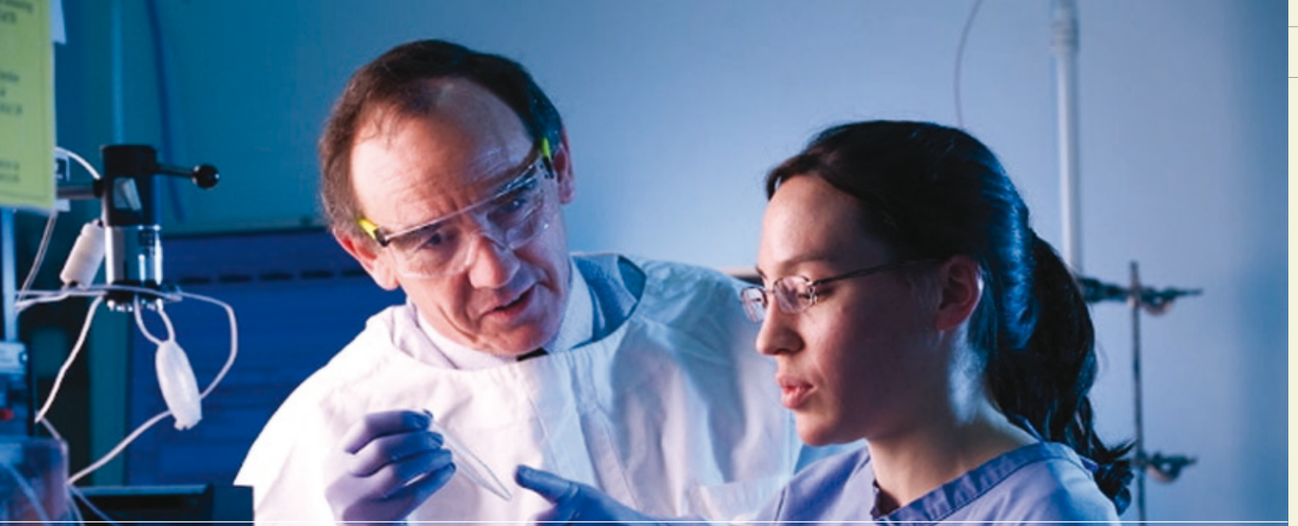


REDEFINING RESEARCH

INTRODUCING RESEARCH DOMAINS

Meryl Fullerton, Head, Faculty Research Unit

Jim McCluskey, associate dean (research) and head of the Department of Microbiology and Immunology, working with Philippa Saunders. Philippa's work involves trying to detect how viruses evade the immune system

Fundamental to the acceleration of biomedical discovery for the benefit of human health in the twenty-first century has been the phenomenon of research teams cooperating in major collaborative inter-disciplinary settings. The success of the human genome project is an outstanding example of this approach. Although not all scientific questions are as large and complex as unravelling the human genome, the speedy generation of significant research outcomes, where experts across a range of disciplines work on different aspects of a particular biological question, is a recognised advantage of the big-team approach.

At the same time, capturing maximum returns for every dollar spent on biomedical research is occupying national thinking in many countries, including Australia, and our national funding bodies now direct major funds specifically to this type of team-based research. The University of Melbourne's agenda also emphasises improving the quality of research outcomes by fostering greater strategic focus in fewer research areas. Accordingly, the Faculty of Medicine, Dentistry and Health Sciences has developed a new concept of research domains which is aligned with these objectives and consistent with examples of successful international practice.

This strategy will transcend our traditional organisational arrangements of schools and departments, instead presenting a coherent picture of our research effort across eight major research domains. All Faculty researchers, including early career researchers, located in numerous disparate geographic locations will be organised 'virtually' according to their research themes. This will allow people's overlapping interests and skills to be developed in the context of greater critical mass and cross-discipline expertise, particularly important to younger researchers.

The Faculty's 1450 researchers have recently been invited to nominate at least one and up to three of the eight domains (comprising Biosciences; Cancer; Cardiovascular; Clinical Sciences and Health Practice; Diabetes, Obesity and Endocrinology; Infection and Immunity; Neurosciences and Behavioural Sciences; and Public Health, Epidemiology and Health Services) to which they would like to belong.

The domains will also provide much greater visibility and access to other interested parties such as students and other scientists, both national and international, who may be looking for collaborative partners. Stronger links will be fostered with researchers in our affiliated organisations, and our research will benefit from greater visibility to potential industry partners, philanthropists and donors. The domain structure will also assist us to publicise our research achievements and international standing to greater numbers of potential research higher degree students and potential staff as well as to governments and the public.

Some domains may evolve into institutes or physical aggregations of 'like-researchers' in their own right, as is already occurring in the neurosciences. Others, such as many of the clinical researchers dispersed across numerous hospitals, will remain part of virtual domains.

The 'virtual' website part of the research domains project was launched in October. The project will be underpinned by face-to-face launch functions, symposia, management meetings and strategically directed financial assistance. These features will provide an impetus for the development of the domains and, we expect, an increase in high quality research and, ultimately, faster delivery of health outcomes to the community.

BIOSCIENCES

Andrew Hill

'Finding out who does what and who is willing to do things, was the most difficult thing when I arrived ', recalls Andrew Hill, who returned to Melbourne University in 2003 after ten years in the United Kingdom. 'This is where the domain project will make things easier.'

'The biosciences domain is so broad, most researchers doing basic research will identify with it in some way,' Andrew says.

'My own research also intersects neurosciences and to some extent infectious diseases and immunity, as well as public health.' Andrew studied prions as a cause of Creutzfeldt-Jakob Disease (CJD) at the height of the bovine spongiform encephalopathy epidemic in the UK. In CJD, prions enter the brain and aggregate; damaging the brain tissue and forming holes. Andrew's recent work shows that prions spread from cell to cell when they are released in small vesicles known as exosomes. His lab also conducts research on two other protein-misfolding diseases: Alzheimer's and Parkinson's.

The media attention surrounding prions and CJD sparked Andrew's interest in communicating science to the public, for which he received a Young Tall Poppy Award in 2006. He already uses interactive online tools to communicate within his laboratory group and sees their potential to enhance communication within and across the research domains. 'I see this project as a good chance for people to get more involved and to promote their work both within the University and throughout the world' says Andrew.

CANCER

Kate Drummond

'Nothing is worse than working in isolation. It's important to have people to talk to and to know the people to talk to,' says Kate Drummond, coordinator for the cancer research domain.

With a background in clinical cancer management, cancer administration and research experience, as well as being a full-time cancer neurosurgeon at the Royal Melbourne Hospital (RMH), Kate is aware of the large task at hand. 'Here in Melbourne we have all the resources to do world class research and make a real difference to cancer patients. But we haven't been good at coordinating all these resources for the best outcome. We have world class researchers and clinicians and large hospitals with huge numbers of patients: we can make a difference on the world stage.'

Kate, who now heads the central nervous system tumour stream in the Department of Neurosurgery at RMH, was encouraged by a high school teacher to study medicine. 'She said to me: "You can do it" and so I did!' Once Kate began medicine she discovered a love for neurosurgery, an area in which she can make a big difference to patients' lives: 'They are such sick patients; the sickest of the sick with the grimmest outlook. You really want to do all you can for them.'

When Kate came to the RMH she was only the fourth woman in Australia to complete neurosurgical training. A clinical research fellowship allowed her to work at the Brigham Women's Hospital, Harvard, for six months learning intra-operative MRI, developed at Harvard. Upon her return she spent three years researching the invasion of astrocytomas for her MD.

Kate believes that success in cancer research lies in 'creating networks, more promotion of the work being done around us, more collaboration and more translational research'.

CARDIOVASCULAR

Louise Burrell

An example of our continually developing collaborative links is the proposed Global Medical Excellence Cluster, which will connect Melbourne with London in a major international linkage across several biomedical themes, including cardiovascular. Top researchers from each location will synergise in a major push to further the development of personalised medicine in a cardiovascular context.

Louise Burrell's vision is to make cardiovascular research a major goal of the University. Louise says, 'It is a challenge to bring together researchers within the domain that are geographically separated.'

As coordinator of the cardiovascular domain, which has an impressive rate of international collaboration among its research outputs, Louise is herself well focused on the international scene. She is the newly elected treasurer to the International Society of Hypertension, fellow of the American Heart Association and member of the British Society of Endocrinology. Louise is an all-round clinical researcher with credentials in grant acquisition, research higher degree supervision and a high national as well as international profile.

Her challenge in running this domain will be to bring together the scattering of cardiovascular researchers across large geographic distances within the Faculty, and linking with collaborators across Melbourne, Australia and throughout the world. Close links with other domains such as diabetes, endocrinology and metabolism, and clinical sciences and health practice give this domain the broadest coverage of basic and clinical interests. These interests are reflected in Louise's profile: her research interests lie in studying the mechanisms involved in heart disease and high blood pressure, as well as how diabetes can impact on heart disease.

CLINICAL SCIENCES AND HEALTH PRACTICE

Peter Ebeling

'The days of the single researcher are gone: the bigger the team, the better,' says Peter Ebeling, coordinator of the clinical sciences and health practice research domain.

Peter is professor of medicine and head of endocrinology at Western Health in Sunshine, near where he grew up as a child. There were no general practitioners in Deer Park, but the family's doctor in Sunshine made a big impression on him.

During his MD, Peter shared in the discovery of the parathyroid hormone-related protein, which regulates the body's calcium metabolism in cancer, and has local effects in bone and other tissues. He then worked at the Mayo Clinic in Rochester, Minnesota, USA, conducting clinical research into osteoporosis. Back in Australia, Peter became deputy director of endocrinology at the Royal Melbourne Hospital.

Now at the Western Hospital, Peter has built up a research team looking into osteoporosis, Vitamin D deficiency and pre-diabetes. These areas address the complex health needs of Melbourne's west, a region bearing Victoria's highest burden of chronic disease.

'I'm hoping the domain will focus and strengthen research and that researchers will collaborate more readily, linking similar research', says Peter. 'It's already happening with a cross-faculty obesity working group, a good example of successful collaboration.'

Peter's capacity for strategic management will be critical in this complex domain which houses so many clinical and health-practice disciplines.

DIABETES, OBESITY AND ENDOCRINOLOGY

Kerin O'Dea

'We have to have people from different areas talking to each other, consolidating their expertise and sharing their resources around', says Kerin O'Dea, coordinator of the diabetes, obesity and endocrinology domain.

When Kerin finished her PhD in basic biochemistry, she went on to work for the pharmaceutical company, Bayer, in Germany for two years: 'I was looking for something more applied'. This led her to study the effects of drugs that delay the absorption of carbohydrates into the body and sparked her interest in diet, insulin and heart disease. Kerin then spent a year in Paris and two years in the Cleveland Clinic in the USA.

In Australia, Kerin has pursued this interest, applying her knowledge to study the health of Indigenous communities. She looked at the impact on the health of Aboriginal people when they returned temporarily to live a hunter-gatherer lifestyle in the Kimberley. In only seven weeks they demonstrated remarkable reductions in all of the major metabolic abnormalities of diabetes and risk factors for cardiovascular disease. She has continued to work on the relationship between lifestyle and health outcomes in Indigenous populations in northern and central Australia.

Kerin O'Dea

More recently, Kerin has developed a research interest in the diet of migrants from southern Europe, a group with significantly lower rates of cancer and heart disease. 'People living traditional Mediterranean lifestyles have fresh fruit with every meal and many more vegetables than most Australians.'

Kerin is keen to identify the positive models of healthy lifestyle: 'It's important to think holistically about food and nutrition, in tackling the problems of diabetes and obesity,' she says.

INFECTION AND IMMUNITY

Liz Hartland

'The domains are about bringing researchers together—we need to think about ways in which we can encourage and reward collaboration' says Liz Hartland, coordinator of the infection and immunity domain.

Liz did her BSc(Hons) and PhD degrees at Melbourne University, but took the opportunity to undertake her postdoctoral studies abroad. She won a fellowship to work at Imperial College London, UK, for two years before returning to Australia and building up a research group at Monash. She recently moved her group back to the University of Melbourne. 'It's hard work building up your own lab independently. It's a time in your career when you are looking to expand your team and can benefit greatly from collaborations.'

Liz and her team study Legionella pneumophila, the bacterium responsible for Legionnaires' disease and pathogenic types of E.coli that cause diarrhoea. 'We're

Liz Hartland

particularly interested in bacterial proteins that interact directly with human proteins and subvert their function. This allows bacteria such as Legionella to interfere with our normal cell processes so they can multiply before detection by the immune response.'

Liz emphasises that infection is the result of both bacterial and host factors, a constant battle where both sides are trying to outsmart the other. Therefore, both microbiologists and immunologists need to talk together about developing new ways to combat current and emerging infectious diseases. The infection and immunity domain is based around this fundamental idea.

NEUROSCIENCES AND BEHAVIOURAL SCIENCES

Trevor Kilpatrick

'The main challenge is coordinating and providing leadership to research in the neurosciences that is dispersed among multiple centres,' says Trevor Kilpatrick, coordinator of the neurosciences and behavioural sciences domain.

As director of the University's Centre for Neuroscience, leader of the Multiple Sclerosis (MS) Group at the Howard Florey Institute and head of the MS CARE unit at the RMH, Trevor is experienced in forming alliances and collaborations. 'A clear voice is needed for the neuroscience research being conducted by the University of Melbourne.'

Trevor is a clinician scientist whose basic research focuses on the neurobiology of MS, in particular oligodendrocytic biology, and upon regenerative medicine. He has initiated a number of multicentre collaborations to study the genetics and epidemiology of MS and is developing translational platforms for therapeutics that target neurodegenerative diseases. His epidemiological research currently concentrates on an incident case-control study examining environmental risks for the onset of first demyelinating events. A major *a priori* focus of the study is to clarify whether there is an inverse correlation between levels of ultraviolet irradiation and risk of MS.

Trevor's MS group won this year's Australian Museum Eureka Prize for Medical Research in recognition of their significant work into finding treatments for sufferers of MS—an example of the power a collaborative approach has to produce results.

Photographs by Gavin Blue

PUBLIC HEALTH, EPIDEMIOLOGY AND HEALTH SERVICES

Jane Pirkis

'Being involved in the Research Quality Framework project in 2007 meant I met some fantastic people. I enjoyed getting an overview of what was going on,' says Jane Pirkis, coordinator of the public health, epidemiology and health services domain. 'This overview will help me draw together the large numbers of people working in this area.'

Jane studied psychology, going on to do a Masters in psychology and a PhD in epidemiology. She was awarded the prestigious Harkness fellowship in health care policy and worked in the Division of Adolescent Medicine, University of California at San Francisco. Her current NHMRC career development award allows her to examine the epidemiology of suicidal behaviour, to inform policies aimed at prevention. She evaluated the First National Mental Health Plan and conducted a review of the National Youth Suicide Prevention Strategy. Jane studies media portrayals of suicide and supervises a number of student projects in this area. Through her work in this area she feels that she can make a difference to the lives of many people.

Her experience in building collaborations has developed through her role as the chief investigator on the evaluation of the Partnership Project, a collaborative initiative conducted by St Vincent's Area Mental Health Service and the Melbourne Clinic, aimed at improving linkages between the public and private mental health sectors.

ALUMNI STORIES

David Penington in conversation with Donald Hossack

David Taylor

Kate Leslie and Andrew Davidson

Old friends John Kelly (left) and John Tiller enjoyed catching up on the night

A dinner for Melbourne MD graduates was held in August this year, celebrating the achievements and seeking the continuing involvement of our alumni in the training of future medical practitioners and the support of our research endeavours. MD graduates Ian Gust and Christine Kilpatrick both addressed guests about how their medical doctorates had helped shape their work and careers and versions of their talks are published in this issue of *Chiron*. The photos on these pages were taken at the dinner.

David Penington, Dean of Medicine (1978–85) and University of Melbourne Vice-Chancellor (1988-95) talks with Donald Hossack. Donald Hossack's honorary MD was awarded in 2006 in recognition of the major contribution made by his work and research, as consultant surgeon to the Melbourne city coroner, to the subsequent Victorian Government's legislation for compulsory seat belts and drink driving restrictions.

David Taylor's MD was awarded in 1978 for his research on the impact on cardiovascular risk factors by modification of the type of dietary fat in residents at an Antarctic station. He is now director of emergency medicine research at the Austin Hospital.

John Kelly, who received his MD in 1953 and is now semi–retired from general practice, was delighted to have the opportunity to discuss John Tiller's research into electroconvulsive therapy. John Tiller was awarded his MD in 1990 and now heads the University's Department of Psychiatry.

Kate Leslie and Andrew Davidson are both working in anaesthesia and pain management, Kate at the Royal Melbourne and Andrew at the Royal Children's Hospital. Kate's MD was awarded in 1998, on aspects of propofol pharmacology and Andrew's in 2005, on the awareness and depth of anaesthesia in children.

Photos Gavin Blue

Doris Young (centre) with Maurice Eisenbruch, professor in the School of Psychology, Psychiatry and Psychological Medicine at Monash University (left) and James Tatoulis, director of cardiothoracic surgery at RMH and chief medical advisor of the National Heart Foundation (right), talks with Wendy Brooks, director of advancement. Doris has recently taken up leadership of the Faculty's new Graduate Programs Unit as associate dean (academic)

SURFING THE AIDS TSUNAMI

Ian Gust

Ian Gust AO is a medical virologist with a distinguished career in public health. During his 20 years at Fairfield Hospital he built an internationally renowned research team, founded and directed the Macfarlane Burnet Institute for Medical Research, established the national HIV reference laboratory and directed the NHMRC special unit for AIDS virology. During his subsequent period as R&D director at CSL Ltd, he reorganised the research division, recruited high quality staff, increased the budget several fold and laid the basis for the company's new product portfolio. The author of three books and more than 300 papers, Ian has received several major awards for his work. Since 'retirement' in 2000, he has been appointed a professorial fellow in the Department of Microbiology and Immunology. In addition to serving on the boards of several biotech companies, he is actively involved with the international AIDS vaccine initiative (New York), international vaccine institute (Seoul) and continues to consult for WHO. This is an edited version of his 2007 Burnet Oration, delivered in celebration of the twenty-first anniversary of the Burnet Institute.

Ian Gust

Has there ever been a generation more fortunate than those of us lucky enough to have been born in Australia during the 1940s—blessed with boundless opportunities and six decades of peace and prosperity, the first generation to be liberated from fear of pregnancy by the pill, the last to grow to maturity before the threat of AIDS?

By the age of 16, I had decided on a career in medical research and applied for, and was offered, a scholarship to become a cadet biochemist at the Commonwealth Serum Laboratories. However, talking about my plans to a friend's brother, a trainee cardiologist, he said: 'You're mad! If you want to do medical research, do medicine, it opens up so many options.' So I did, and it did. It remains, probably, the most useful piece of advice I've ever had. In 1958, medicine was easier to get into than today: I simply applied and was accepted.

During the pre-clinical years the larger than life figure of Pansy Wright, a born agent provocateur, sought to challenge and provoke us. He presided over Friday afternoon booze-ups in the quadrangle of the old Physiology Department, where indifferent red wine was consumed from laboratory beakers and you were likely to rub shoulders with the likes of Ken Myer or Nugget Coombs.

Pansy had been influential in persuading the Commonwealth to extend their scholarship system, so that medical students could spend a year acquiring a science degree: the forerunner of the BMedSc or today's Advanced Medical Science year. John Mathews, Barney Carrol and I took advantage of this opportunity, and, in time, all three of us went on to direct research institutes: John, the Menzies School in Darwin, Barney, the Neuropsychiatry Institute at Duke University and myself, the Burnet.

I returned to the medical course with a new enthusiasm. Syd Rubbo set aside two slots a year for guest lecturers, to excite students about the possibilities of research. Both lecturers that year had a profound impact on me: the quiet, self-effacing, slowly spoken, deeply thoughtful Mac Burnet and the engaging, vital, enthusiastic Gus Nossal, super-salesman, even in his 30s, for the possibilities of immunology.

I graduated, started work at the Alfred Hospital and decided to pursue a career in microbiology. Mac Burnet was surprised because, in his view, the major problems of microbiology had been solved: vaccines and antibiotics were controlling many common infectious diseases and public health authorities only needed to apply existing principles. This view, echoed by the US surgeon general, was widespread at the time: even Nobel laureates and surgeons general sometimes get it wrong.

Cell culture technology had revolutionised virology; every few months a new virus or class of viruses was discovered. It seemed like a field with a future, a field that would benefit directly from the great advances that were occurring in biochemistry and immunology. Most importantly, it held the intriguing prospect that if you were smart enough, or lucky enough, you might be able to do something which benefited large numbers of people.

Making the decision was one thing, turning it into a reality proved more difficult. In the mid 1960s, medical virology had virtually disappeared as a discipline in Australia. Syd Rubbo persuaded me of the value of broad training before specialising, so, on completing my residency at the Alfred, I applied for and was appointed as pathology registrar at Fairfield Hospital for Communicable Diseases. Fairfield had opened in 1904, funded by donations to Queen Victoria's Diamond Jubilee Fund and levies on local councils. In 1963, it was already a relic of a bygone era: a series of red brick buildings and pavilions with high ceilings and wide draughty verandahs scattered over a 15 acre site and linked by windswept covered walkways. It's hard to explain to young graduates how things were 40 years ago. Most large cities had a hospital for the isolation and care of patients with communicable diseases; the causative agents of most of the childhood infectious diseases had not been identified, pathology services were rudimentary and treatment often symptomatic. While smallpox, polio and influenza vaccines existed, everyone expected to encounter measles, mumps, rubella and chicken pox during childhood, sometimes with serious consequences.

I enrolled as a trainee pathologist with the Royal College of Pathologists of Australia, starting and finishing at Fairfield Hospital, broken by two and a half years in the UK—first at

Fairfield Hospital

the London School of Hygiene and Tropical Medicine, then with Norman Grist at the Regional Virus Laboratory in Glasgow.

During my time in London, I followed developments in viral hepatitis, reading with interest two important papers: by Baruch Blumberg, noting his discovery of the Australian antigen, and by Fred Prince, demonstrating that the presence of this antigen was a serological marker of the presence of the hepatitis B virus.

While in Glasgow I watched the field closely and wrote to Fred Prince who invited me to visit him at the New York Blood Centre on my way home to Australia, which I did. I left with a wonderful gift, four sealed ampoules of reference sera, two containing Australia antigen and two, antibodies directed against it, wrapped in cotton wool, packed in a blue and white cigarette tin. I crossed the country with the tin in my luggage and flew back to Australia, walking through customs with the tin in my pocket. Today, I'd probably be arrested as a bioterrorist! Returning to Fairfield Hospital at the end of 1969, I plunged straight into hepatitis work. We did a lot to define the natural history and mode of spread of the disease. As a result, our laboratory was designated as a WHO Collaborating Centre for Viral Hepatitis, gaining us entrance to the international hepatitis community.

Within a year of my return, Alan Ferris joined the Department of Microbiology at Monash University as a senior lecturer and, as the hospital had little choice, I was made head of the virus laboratory, at that time numbering six people: four senior scientists and two technicians. Although winning the respect of the senior staff took some time, it was a fabulous opportunity: I was like a boy let loose in a lolly shop! I'm eternally grateful for the opportunity and am forever wary of comments heard at selection panels that, 'so-and-so is very talented but not quite ready'. Whenever I've had the opportunity I've punted on people whose promising futures are ahead of, not behind, them.

In 1983 the hospital's new board moved to formalise its commitment to research and established the Fairfield Hospital Medical Research Centre which I was asked to head. Mac Burnet graciously agreed to be our patron. The new centre brought together the laboratory's grant supported research but no sooner were things back on an even keel than we were hit with a tsunami—the tsunami of AIDS.

Every generation has its defining moments. For my parents it was probably the Depression and Second World War. Most of my generation know where they were when JFK was assassinated, when Neil Armstrong stepped onto the moon and when the first plane hit the Twin Towers. Sometimes, equally important moments sneak up on you and are only apparent in retrospect. That happened to

Cigarette tin, circa 1969

me in April 1981 in the peaceful, then sleepy, city of Auckland.

Several of our team were attending the scientific meeting of the Australasian Society for Infectious Diseases and, over a casual conversation, heard from the guest speaker Morton Schwartz, an American infectious diseases physician, of the first cases of an apparently new disease among gay men in New York and San Francisco. The disease was characterised by enlarged lymph nodes and spleen, severe and recurrent opportunistic infections and a profound suppression of the immune system with a selective depletion of CD4 cells. Despite the best treatment, the disease, initially labelled Gay Related Immuno Deficiency (GRID) seemed to be invariably fatal. It was discussed as a curiosity and we speculated that it might be the result of the toxic effects of some of the drugs the affected were known to use to enhance sexual performance. None of us thought the disease was particularly important or had any idea how it would transform our lives.

Over the next two years the disease was seen more commonly among homosexual men in the US and Haitians, however it was not until cases began to occur among intravenous drug users and haemophiliacs, that it became clear that we were probably dealing with a blood-borne viral infection.

Fakhery Assaad, then head of the Commonwealth Diseases Division (CDC) at WHO, sensed earlier than most that AIDS had the potential to be a serious global problem and convened a meeting in Geneva to discuss it. I was invited and, by chance, was seated beside a French virologist from the Institute Pasteur, Luc Montagnier. Luc presented some data, in broken English, to indicate that he had identified the causative agent, which he called the lymphadenopathy associated virus by electron microscopy. Unfortunately his observations were heavily criticised.

I had sympathy for his position because, not only did the data pass the sniff test, but I had previously been a victim of the 'not invented here' syndrome. In 1973 our paper on the identification of HAV, lead authored by Stephen Locarnini was rejected by the *Lancet*. Several years later, when I questioned the referee, Jane Almeida, about her decision, she said simply, 'it was such an important observation, I thought that if it was true, I could already have made it'.

During an interruption of the meeting, Luc and I started chatting and he agreed to send us samples of infected lymphocytes and some pedigreed sera so we could try to replicate his findings.

After two unsuccessful attempts to resurrect the cells he shipped to us, I arranged for a colleague, Rob Pringle to travel to CDC, which was collaborating with Montagnier and learn the technology. Rob arrived back and, with Graeme Williamson, soon established assays capable of detecting infection with the AIDS virus, enabling us to generate local data and put the debate about the disease on a rational basis. We did what would nowadays be almost impossible: went to

our freezers, pulled out samples from a large number of people with haemophilia, and tested them. To our surprise and that of their doctors, almost one third of Australians with severe haemophilia were already infected.

The emergence of AIDS in the 1980s was a gift from God for religious conservatives and generated enormous publicity. As with the recent hysteria about SARS and avian influenza, it was hard to pick up a newspaper or periodical or turn on the radio or TV without encountering a major story on the disease. Fairfield Hospital saw AIDS as a means of reinforcing its pre-eminent position in the field. It offered the Government the opportunity to care for patients at a single facility, out of the public gaze, cared for by well-trained staff in pleasant surroundings. The decision was backed by the gay community who liked the location, the integrated services and non-judgemental staff. It was an exciting but gruelling period for all of us, especially the clinicians, who were not used to being unable to save the lives of young, previously well, patients.

Then we had another piece of luck. In late 1984, in order to bring elections to the Senate and House of Representatives back into alignment, Prime Minister, Bob Hawke, called an election. In the midst of the campaign a child was admitted to hospital in Brisbane with lymphadenopathy, an enlarged spleen, a severe opportunistic infection and profound immunodeficiency. The attending physician had never seen anything like it and, while sailing on the weekend, mentioned it to a pathologist colleague, who recalled performing an autopsy on a child with similar features. The following Monday they checked the histories of the two children for common features and found that both had been premature and both had received 'top up' transfusions early in life. When tracked back, both donations had been obtained from a unit of blood from the same donor. Two other aliquots made from this unit had been administered to two other premature children, one of which had died from other causes, the other of whom, when traced, showed evidence of immunodeficiency. It seemed likely that this was a cluster of cases of paediatric AIDS.

Ian Gust with Macfarlane Burnet & Gus Nossal, after being awarded the 1982 Wellcome Australia Medal & Prize

Samples of blood from the donor and index case were flown to Melbourne and within 24 hours we were able to confirm the diagnosis. The information caused a huge furore as it was apparent that Australia's blood supply was compromised and that, what the press referred to as 'innocent people,' might be at risk. Health minister, Neal Blewett, convened an urgent meeting of state and territory health ministers for the following Sunday. By chance, I was in Canberra on the preceding Friday, on business for the AIDS Task Force, and was asked by David Penington, chair of the AIDS task force and Spike Langsford, the Government's chief advisor on communicable diseases, for advice.

> I'm eternally grateful for the opportunity and am forever wary of comments heard at selection panels that, 'so-and-so is very talented but not quite ready'

Aware that the US Government had charged five diagnostic manufacturers with the responsibility of developing a suitable diagnostic test, then at various points of development, I suggested that the Australian Government control the testing process. That it work with the manufacturers to independently assess the assays and identify the best available, then purchase sufficient quantities to test every unit of blood collected in Australia and provide a separate service for people at risk of infection and the 'worried well'.

I sketched out a plan for a three–tiered testing system on the back of an envelope: restricting testing to blood banks and a limited number of public health laboratories in each state and territory; establishing a network of state reference laboratories responsible for confirmatory testing; and a national reference laboratory to oversee and co-ordinate the program, train staff, establish quality assurance and control programs, ensure consistency of interpretations, troubleshoot and act as 'court of final appeal' for contentious results.

At the Sunday meeting I sat behind Victorian Health Minister, Tom Roper, and head of the Health Commission, Gad Trevaks, as David Penington outlined the proposal. It was agreed, with our laboratory responsible for overseeing the process. Tom Roper turned and asked what resources we needed: I guessed a figure and added fifty percent. He said, 'OK, get on with it'.

Early the following morning the hospital's CEO, Bill Phillips put all the relevant resources at my disposal. Requisitioning an old animal house we converted it into a, not posh but functional laboratory, allocated staff to the production of coded panels of test sera and negotiated with the blood banks in Sydney, Melbourne and Adelaide and the laboratory at St Vincent's Hospital, Sydney, to join us in the evaluation. For the diagnostic manufacturers, this represented the first systematic and independent evaluation of the operational characteristics of their assays, the potential for an important endorsement as well as a significant commercial opportunity.

Testing a coded panel of 1000 sera, with five assays in five separate sites, took some months, after which the results had to be collated and analysed. When we broke the code in May 1985, two assays stood out. Within days the Government had issued tenders to purchase them and, by June, testing was introduced simultaneously to all blood banks and selected public health laboratories throughout the country. It was a world first.

In some countries, senior public health officials have been criticised and even prosecuted for not acting as swiftly. These criticisms fail to recognise how unusual the circumstances were in Australia and how much the stars were in alignment: an intelligent minister of health with a keen interest in the disease and the cabinet clout to be able to deliver resources; a functioning task force able to provide high quality advice at short notice; the catalytic effect of the Queensland babies and the imminent election; and a cadre of people with the technical and organisational skills to deliver the program.

The dispute in the 1980s had brought Fairfield Hospital and its research programs—especially viral hepatitis–to public attention, and AIDS provided an increased flow of publicity. New resources were provided for research including the NHMRC special unit for AIDS virology, which I was asked to lead, and designation as one of a handful of WHO collaborating centres for HIV and related viruses.

> ...in my youth I loved to surf and the principles of body surfing and medical research are essentially the same.

It seemed like the ideal time to upgrade the role of the Medical Research Centre and the death of Macfarlane Burnet in 1986 provided the catalyst. I wrote to his widow, asking permission to use his name for the centre to which she generously agreed. Fairfield Hospital's Medical Research Centre was thus renamed the Macfarlane Burnet Centre for Medical Research.

My aim was to establish a world class centre to study viral diseases of public health importance, which would not only conduct basic research but be involved in product development, health policy and program implementation. Our initial focus was on viral hepatitis and AIDS, areas in which we were internationally competitive.

My first task was to raise enough money to endow several new units, each headed by a senior scientist. I hoped we could use these positions to lure back some outstanding young Australians working overseas.

I racked my brains. The only really rich person I had ever met was Dick Pratt and that encounter had lasted less than 60 seconds. When I was a medical student, we briefly played football for the same team, AJAX. Dick, who had been a star with Carlton's under-nineteens had won a Morrish Medal, was finishing his career to pursue acting and I was just starting off. On the day in question, we were playing at Peanut Farm, behind Luna Park. Dick was in the ruck and I was nineteenth man. I went onto the ground just before three-quarter time. The ball was in the forward pocket, Dick palmed it down to me and while I had a hurried shot at goal, he strolled up the race to shower and change, in time for his appearance in Ray Lawler's *Summer of the Seventeenth Doll* at the Union Theatre, that night.

I had read somewhere that Malcolm Fraser insisted on cabinet papers of not more than a page in length, on the grounds that if you had a good argument, you should be able to capture it concisely, and elsewhere, that busy people always read PSs! So I sent Dick a one page letter, reminding him of our previous encounter in the PS.

It must have caught his eye, as he agreed to chair an appeal committee and was incredibly generous with his time and resources. Within a year or so, the Prime Minister had launched our appeal, several million dollars had been raised and Dick had identified and helped to recruitGraeme Hannan as chairman of the board.

By 1990 the centre was established, vibrant but not entirely secure. It became clear to me that while the hospital had enjoyed resurgence due to AIDS it was unlikely to be viable in the long term and that its demise could threaten the existence of the centre. I came to the painful view that the futures of the two needed to be separated and that this would not be possible with a director who was employed by the hospital and who owed his position to his clinical colleagues, so I resigned.

My decision caused some difficulty at the time, but turned out to be good for both parties. The centre has had the benefit of two other directors, each bringing a different set of skills, adding new dimensions to its activities. My decision to join CSL in 1990 was greeted with amazement by many of my colleagues, but the chance to breathe life into a close to moribund organisation and participate in its transformation was one of the most challenging and rewarding periods of my life.

I've commented several times that I've been lucky. When I try to analyse why, I think it's because in my youth I loved to surf and the principles of body surfing and medical research are essentially the same.

In surfing you swim out the back, away from the crowd until your feet no longer touch the ground and you are out of your comfort zone. You scan the horizon looking for the next big wave: when you see it you turn to face the shore and swim with all your might. If you have your timing right you are picked up and swept along for an exhilarating ride. If you are really smart, you bail out before you hit the beach and head out the back looking for the next wave. It's the same with medical research!

A UNIVERSITY HOSPITAL

Christine Kilpatrick

Christine Kilpatrick graduated MBBS in 1976 and pursued a career in neurology, specialising in epilepsy. Her MD was taken out in 1986. She has, however, pursued a career path unusual for most medical graduates, by moving from neurological practice into the realm of hospital administration, first as executive director medical services then executive director at the Royal Melbourne Hospital. This year she graduated MBA from Melbourne and took up her latest appointment, as chief executive officer of the Royal Children's Hospital in Melbourne.

Christine Kilpatrick

When asked how my MD had influenced my career, my initial response was that it had not had much impact, particularly given my recent change of career direction. On reflection, however, I think it has been considerably more relevant than would first appear.

My training as a neurologist in the 1980s was somewhat unusual in that I did not go overseas and I completed my MD on a part-time basis over a number of years. My MD was clinically based, assessing the relevance of protein binding of AED. It didn't exactly result in a cure for epilepsy but it did have some impact on how AED monitoring was used in the management of epilepsy, an investigation which remains extremely over-utilised.

My MD experience gave me an understanding of the role of research in improving clinical practice, and helped me to develop a critical mind in assessing new clinical information. Importantly, it also gave me credibility in the clinical arena. Rightly or wrongly, people do focus on credentials when assessing ability. It helped me establish myself as an academic neurologist specialising in epilepsy and, although I was predominantly clinical, I led a clinical research program and was involved in the training and education of undergraduate and graduate students in clinical epilepsy.

In the past, people often saw the MD as something to tick off after your fellowship, before getting on with clinical practice. This is less so today—for many it marks the beginning of a significant research career.

People sometimes criticise those who complete an MD then do not continue in research. This is unfair: although they may not continue in research, they have gained the ability to critically appraise research—a very important skill in specialty practice. They also tend to be attracted to work in the public sector and are often involved in training and education: skills critical to the ongoing success of the medical profession.

Although for many, the MD is the first step in a life long stellar career in medical research, for me it has been somewhat different.

About eight years ago, after 20 years of academic and private neurology practice, I became restless. I didn't think I wanted to retire from neurology but wanted to do something else, causing much consternation amongst my colleagues. I was attracted to the organisational aspects of health care delivery, particularly the delivery of tertiary services in the public sector.

There is no doubt that medical research and education have an integral role in the delivery of high quality health services within a tertiary referral hospital.

So, I went over to the dark side: I undertook an MBA, which gave me the formal knowledge and credentials I needed, and went on to executive appointments at Melbourne Health and, more recently, the Royal Children's Hospital.

My experience working as a neurologist in a tertiary environment involved in research, education and private practice, has put me in an unusual position as a CEO: I have a clear understanding of the work of a tertiary hospital from a clinician's point of view, and my MD and academic career has assisted me to understand the vital roles played by research and education in a tertiary teaching hospital.

There is no doubt that medical research and education have an integral role in the delivery of high quality health services within a tertiary referral hospital. There is good evidence that research led and informed, and education driven, health services improve patient outcomes. Not only does research result in knowledge which improves clinical care, and hence outcomes, but it is also recognised that clinical services delivered in a research environment have a greater uptake of best clinical practice. A recent report from the Cancer Institute NSW and Access Economics Health Returns in Investment in Cancer Research shows not only improved clinical outcomes from research but also economic benefits to the community.

To maximise the impact of clinical research in improving patient outcomes, research should not be seen just as an individual, CV developing activity, but rather as answering questions of clinical relevance to improve patient outcomes—be it therapeutic drug trials, outcome studies, pathogenesis studies or studies of health service delivery. To achieve this we need to ensure that health services take a strategic approach to research, and plan to address areas of need, not just researcher's interests. Researchers must not only undertake their own but also inspire others to do research, value research and make sure that research leads to improvements in patient outcomes.

A critical issue of health service delivery and medical research is putting research findings into clinical practice. We all know it is often difficult to engage clinicians to incorporate research findings into their practice. We need more formal processes to make certain this happens. An area of considerable need is health services research. This requires the involvement of clinicians, well-trained in research principles and with a strong knowledge of clinical practice, particularly in the hospital setting.

There has been considerable discussion recently of the role of a university hospital. I believe this does not just mean a hospital that undertakes teaching of medical students. A university hospital should be a hospital where the teaching of health professionals—medical, nursing and allied health—is integral to the mission of the health service; where education moves seamlessly from undergraduate to graduate and to continuing education; and where there is a strategic, planned and coordinated approach to education. It should be a hospital where research underpins clinical practice, informs clinical management and improves patient outcomes and the health service has a strategic approach to research which addresses areas of need. In a university hospital the university departments—medicine, surgery, radiology, psychiatry, paediatrics etc—should be integrated into the life of, and promote academic excellence throughout, the hospital. We should be striving to make this a model for all the University of Melbourne tertiary referral teaching hospitals.

So, although an MD is not a conventional credential for a hospital administrator, in my case it has significantly influenced my career and, now, my vision for the Royal Children's Hospital.

A 'WORKING' RETIREMENT

Barrie Aarons OAM, MBBS (1957) FRACS

Since early childhood I have had a love of woodwork, helping my late father make furniture and learning from him the art of French polishing. Like most children I also had a fascination with flying. This fascination, however, was only realised when, during my intern year, I went on a month's service to the Air Force in Laverton, Victoria, and took my first two flights, one of which was equivalent to a flying lesson. My first real flying lesson took place in Hamilton, Victoria 28 years later.

My wife, Fay, and I moved to Hamilton in 1966 with our four small children where I practiced surgery until 2003. I have found that in retirement, however, my enthusiasm for 'work' has not lessened. Since retiring I have given tutorials to Flinders University medical students and been an instructor for the Royal Australasian College of Surgeons.

After obtaining my pilot's licence in 1987 I progressed on to obtain a command instrument rating and Fay and I have logged up many hours flying throughout Australia. Since retiring I have become involved in Angel Flight Australia, flying 30 missions carrying people on non-urgent mercy flights over 16,500 km at no cost to them. Patients have ranged in age from a few months to 74 years. I also give talks to community organisations raising awareness of this wonderful privately funded charity and many donations have been forthcoming.

Throughout my working life, apart from fixing humans, I enjoyed making, repairing and inventing objects, including some instruments for surgery. Electronics was a minor hobby in childhood but has developed in more recent years. I enjoy building and repairing electronic devices. A 'Men's Shed' recently opened in Hamilton to encourage older men to socialise with other men and work together on projects. It is believed that organisations such as this will reduce the amount of depression in the community. I am on the committee as a supervisor and instructor and I check, and repair if necessary, donated electrical tools.

Although my family was not very musical, I developed a love of classical and jazz music, taking up the clarinet at the age of 34. Each week I join with a few other adult musicians, and students at a local secondary school, to play music and have played in the Hamilton Symphony Orchestra for the last three years.

My love of mathematics at school has enabled me to become treasurer of a number of organisations including our local hospital and develop a knowledge of computers and programming. I have served with Rotary for 40 years including terms as president and treasurer, and writing and managing a computer program for our annual art show. I helped set up a Probus Club and my wife and I are now active members of this and U3A.

This all adds up to a busy retirement, to which must be added our frequent trips to Melbourne, Woodend and Coolum, Queensland to visit our children and ten 'grandies' whom we love dearly.

CONGRATULATIONS ON SEVENTY-FIVE YEARS SINCE GRADUATION

Frank Heinz Ebell (MBBS 1933) is pictured here with Thomas, one of his great grandchildren. Frank was born in Ballarat in 1911 and graduated MBBS from Melbourne University in 1933, before moving to work in Mt Magnet, Western Australia. He enlisted in the Army (Field Ambulance), and saw service in Borneo, in varied locations along the Borneo coast, including Labuin General Hospital and Kuching. On his return to Australia, Frank spent some time running a military camp hospital in Northam, WA, before his discharge. He then set up in general practice in Fremantle, WA where he worked until his retirement. Frank continues to maintain a keen interest in medicine.

REUNIONS

MBBS 1941

September each year sees the MBBS graduates of 1941 gather together, to reminisce about their medical student days at the University of Melbourne, their subsequent careers and family lives and the year which has passed by since their last reunion.

Pictured here at their reunion last year are: Back—Peter Bird, Clarice Heatherington, Brian Costello, Frank deCrespigny and James Guest. Front—Mary Wheeler, Doug Atkinson, Alexe Gale and Ida Seward.

MBBS 1947

The MBBS graduates of 1947 at their sixtieth year reunion luncheon held at the Melbourne Club on Saturday 13 October 2007. Pictured are: Standing (L-R)—Harry Buckstein, Tom Hurley, Ian Rowe, Phillippa Currie, Ralph Clark, Derek Denton, Bernard Neal, Noel Ramsay, Cedric Vear, Peter McMahon, Harold Story, Bill Hare and Ric Bouvier. Seated—David Bartram.

MBBS 1952

In November 2007, the MBBS graduates of 1952 celebrated their fifty-fifth anniversary since graduation with a dinner for graduates at the Melbourne Savage Club, followed the next day with a barbeque for graduates, families and friends.

Our reunions always attract a good attendance and this year was no exception. Fifty-seven graduates attended the dinner and 54 people, the barbeque. We have lost track of five of our number over the years and 72 are deceased.

During the dinner, Nan Ferguson gave a very amusing talk of her life as a medical student and as an anaesthetist. Photo, Ben Wolstencroft.

Hugh Hadley

MBBS 1957

The fiftieth year reunion dinner of the MBBS graduates of 1957 was held at the Kooyong Lawn Tennis Club on 27 October, 2007. Of the 126 people who attended, 74 were 1957 graduates. From all reports the event was a great success. Photo, Snappy Pics, Sandringham

Gabriel Kune

MBBS 1977

What do you produce when you send a fake recall for a repeat final year exam to 200 Melbourne MBBS graduates from 1977? Initially, transient palpitations, sweatiness, even a momentary chest pain … followed swiftly by 50 new dresses, 90 trips to the barber, 51 bottles of hair dye, 100 gym memberships, 140 name badges in size 72 font and … one noisy, happy reunion!

Our class was actually recalled for a repeat final year medicine paper in 1977 so our reunion theme song just had to be 'Lets' Do It Again' by the Beach Boys.

And so we did … with an afternoon 'exam preparation' session in the Sunderland Theatre, followed by a gala 'exam dinner' at Ormond College. We even organised an after-party, much to our teenage children's astonishment.

Everyone looked fabulous and had not aged a bit. Consequently, all candidates were awarded honours.

PS: Unfortunately the after-party had to be abandoned due to exhaustion. A DVD of the 30 year 1977 MBBS reunion is available by emailing Katrina Watson at katrina.watson@svhm.org.au. The cost is $30 with proceeds going to the Tom Benson Bursary Fund for Melbourne University students with physical disabilities.

Pictured are the graduates of 1977 in younger days, before the days of hair dye and gym memberships.

Katrina Watson

MBBS GRADUATE ANNIVERSARIES

University House is a beautiful Victorian home dating from 1885 situated within the grounds of the University of Melbourne's main campus in Parkville. It is the sole survivor of a number of Victorian professorial houses that once lined Professors Walk. Five minutes from the city's centre, University House features function rooms that can cater for from six to 300 guests. For information about using University House for your next graduate reunion contact the functions manager on T: (+61 3) 8344 5254 or visit the website at: www.uniclub.com.au

If you are planning a reunion for 2009 please contact the Advancement and Communications Unit to discus how we can help. To ensure you continue to receive information about reunions, please let us know of address and email changes.

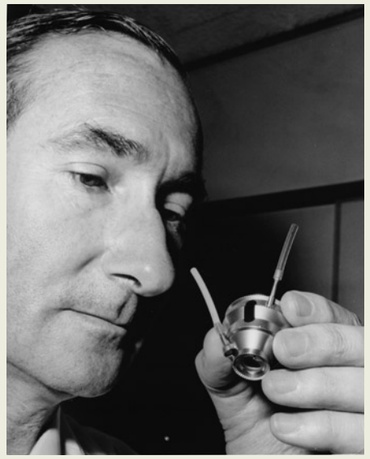
UMMS, Advancement and Communications Unit, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, VIC 3010, Australia
T: (+61 3) 8344 5888,
E: mdhs-alumni@unimelb.edu.au

OBITUARIES

RECORDED WITH REGRET, THE PASSING OF:

Joseph R Aarons (MBBS 1949)
Tom Antonie (MBBS 1945)
Alfred D Atkinson (MBBS 1941)
Richard Bell Bachelor (MBBS 1962)
Bill Breidahl (MBBS 1953)
Sheila M Barr (BSc 1937, MBBS 1940, Dip O&G 1945)
Allan M Beech AM, KSTJ, RFD (MBBS 1944)
Michael S Benson (MBBS 1941)
Peter J Canty (BSc 1965, MBBS 1967)
John E Cranswick (MBBS 1949)
Neil T Cheshire (MBBS 1955)
John F Connelly (MBBS 1956, MD 1970)
Gerard W Crock AO (MBBS 1953)
Geoffrey C Darby (MBBS 1951, GDip Anaes 1956)
Andrew W Dent AM (MBBS 1979)
Effie M De Ravin (MBBS 1943)
Kiernan J Dorney CBE, DSO, AM, OBE (MBBS 1937, BSc 1945, MS 1948)
Elsbeth M Dougall (MBBS 1942)
David N Fearon AM (MBBS 1951)
Mervyn T Fish (MBBS 1950)
Peter W Graham AM (MBBS 1951)
James C Grimwade (MBBS 1961)
Douglas L Gordon (MBBS 1943)
Herbert W Hardy (MBBS 1944)
Ronald G Henry (MBBS 1951)
Edith J Hewitt (MBBS 1946)
John D Hollaway (MBBS 1966)
Ronald A Hurley (MBBS 1955)
Molly Longfield (MBBS 1948)
George C Jago (MBBS 1925, G/Dip PsychMed 1944)
Clarinda B Jelbart (MBBS 1937)
Cyrus A Jones (MBBS 1937, Dip O&G 1947)
Elizabeth M Kenny (MBBS 1941)
Peter G Legg (MBBS 1961)
Margaret M Lowing (MBBS 1970)
Ian G Lyall (MBBS 1953)
Colin F Macdonald (MBBS 1949)
Joan A Marsden (MBBS 1944, MD 1951)
FIR (Skip) Martin (MBBS 1953, MD 1957)
Bertram P McCloskey (MBBS 1945, MD 1951)
Peter J Mortensen (MBBS 1949)
Charles R Murton (MBBS 1972)
Graeme Nicholson (MBBS 1957)
Una O'Day, MBE (MBBS 1939)
Barry J Orme (MBBS 1957)
Peter J Parsons (BSc 1937, MBBS 1938, MD 1948)
Maxwell A Price (MBBS 1950)
Winston S Rickards AM (MBBS 1943, BSc 1949, MD 1950, G/Dip Psyc Med 1951)
Ian S Reid (MBBS 1953)
Warren R Saunders (MBBS 1983)
Peter Schaps (MBBS 1957)
R L Sleeman (MBBS 1940)
Bill Sloss (MBBS 1941)
Neil S Smith (MBBS 1949)
Kenneth N Speed (MBBS 1942)
William T Straede (MBBS 1950)
Geoffrey M Stubbs (MBBS 1947, G/Dip Ophth 1954)
Boyard I Taft (MBBS 1935, G/Dip Diag Radiol 1953)
Linh T Tran (MBBS 1995)
Judith M Walker (MBBS 1968)
Ormond A Whitney (MBBS 1946)
Peter G Wilson (MBBS 1973)
Albert T Wolff (MBBS 1948)

GERARD WILLIAM CROCK AO
1929—2007



Gerard Crock gazing at a compact lens corneal cutter which he and his team developed in the Department of Ophthalmology

Gerard William Crock, who died peacefully at home on 23 December 2007, was a compassionate and considerate physician; an extraordinarily gifted clinician, a highly innovative surgeon and an inspiring teacher.

Born in Perth to Vernon and Annie Crock, he was one of identical twins and enjoyed a remarkable bond with his equally talented brother, Harry. They were educated by the Jesuits then, after beginning studies in dentistry, there being no course in medicine in Western Australia at the time, were supported to study medicine at Melbourne University. Their dissecting skills in anatomy saw them each appointed as 'prosector' in 1950. They graduated in 1953, Gerard with the Exhibition in Medicine and Harry with the Ryan prizes in Medicine and Surgery at St Vincent's Hospital. The two were remarkably similar in appearance, and enjoyed a legendary ability to finish each other's sentences. Mistaken so often for each other, they adopted a life-long policy of acknowledging salutations from confused strangers.

In 1956 Gerard married Jacqueline Bladin, founding a great partnership that defined a life brimming with personal and professional achievements.

Gerard's specialist training at Moorfields Eye Hospital in London was followed by a senior lectureship in ophthalmology at the University of London and a year in America on a Harkness Foundation Fellowship at Johns Hopkins Hospital in Baltimore.

At the age of 34 he was appointed foundation Ringland Anderson professor of ophthalmology: the first medical specialty chair in Australia and only the second chair in ophthalmology in the British Commonwealth. He established the University's Department of Ophthalmology and much of the Royal Victorian Eye and Ear Hospital. He founded and directed the hospital's retinal unit, initiated and supported the development of the other specialist units and for a time was chair of the hospital's senior medical staff. Gerard 'retired' in 1987 to a busy private practice, specialising in retina, cornea and glaucoma. He was also Melbourne's leading cataract surgeon.

A world leader in retinal imaging and a pioneer of fluorescein angiography, retinal photography and retinal laser photocoagulation, Gerard spent many hours taking photographs and movies of the back of the eye with his team, including photographer, John Scrimingeour. He introduced these techniques to Australia, establishing them initially in his beloved department. He and Nan Carroll did amazing work with Australia's first academic scanning electron microscope including quality control for the bionic ear that Professor Graeme Clarke was developing on the floor above. He supported the new Department of Optometry and its head, Barry Cole. Together they established the now world-famous Low Vision Clinic at Kooyong for the Association for the Blind (now Vision Australia).

Gerard's team worked with Bernard O'Brien, Australia's pioneering microsurgeon at St Vincent's Hospital, to develop micro-sutures—needles and threads so fine that veins the size of a pinhead could be repaired or joined. With the department's two brilliant engineers, Jean-Marie Parel and Ljubomir Pericic, Gerard was involved in the invention of a whole range of microsurgical instrumentation. This included the Schultz-Crock binocular indirect ophthalmoscope, a combination loop and ophthalmoscope that won a Prince Phillip Design award (1975); the fundus stereo camera; the vitreous infusion suction cutter (one of the bases for modern retinal surgery); and the corneal cutter—a precision cutting device for both donor and recipient corneas in corneal transplants.

Gerard combined these amazing clinical skills and his talent for insightful innovation with his gifts as an inspiring teacher. His movies of the back of the eye revealed the beauty of the functioning circulation and the magic world of ophthalmology to medical students as they saw the fluorescein dye enter the eye, pass through the arteries, then the capillaries, and finally leave through the veins. His meticulous microsurgery used a thin thread to retract tissue and a tiny sponge and a wire cautery to stop capillaries from oozing. Gerard's skill and enthusiasm made it hard to understand why not everyone wanted to become an ophthalmologist.

A consummate clinician, Gerard's extraordinary practice included community leaders—judges and QCs—but also tradesmen, farmers and people from all walks of life. Many of his patients became long-standing friends, maintaining contact with him over the years, calling or visiting him from time-to-time. His primary interest in his patients was always as people first: however interesting or rare their condition, they were never merely 'cases'. Although he saved the sight of so many, he found no irony in his second daughter's marriage to a man who is totally blind.

Gerard trained a generation of ophthalmologists throughout Australia as well as many international fellows. Many overseas ophthalmologists who undertook specialised training with Gerard remember their time in Melbourne fondly, especially Sunday dinners shared with the Crock family, their friends and often patients. These former students continue to keep in touch with the family, decades after they themselves have become leaders in eye care in their own cities and countries.

Gerard worked with Fred Hollows' Indigenous eye-care programs across outback Australia. He was a founding member of Project Orbis, which saw experts from Australia and the United States deliver training programs in China, and played an important role in bringing China into the International Council for Ophthalmology in 1973. He ran fieldwork projects in the Philippines, the Cook Islands and India and was hospitaller for St John's Eye Hospital in Jerusalem for over 30 years.

His contributions were recognised by appointments as an Officer of the Order of Australia (AO) in 1985; and as a Knight of the Order of St John of Jerusalem in 1990.

Gerard's generosity and hospitality were legendary. Rodney Westmore, an ophthalmologist in Launceston and a former student, wrote to Gerard shortly before his death:

> It was almost routine that patients with retinal detachments would turn up on Friday afternoon. There was no retinal surgeon in Tasmania, and your invariable response on telephoning was, 'Send them over, Rod'. You never once asked if they were private or public, and I suspect you did a lot of public surgery yourself after hours.

Gerard's long battle with cancer brought sadness relieved by periods of deep joy for his family. In December 2006, he and Jacqueline celebrated fifty years of marriage with their six children and 17 grandchildren, then celebrated the arrival of another grandchild the following year. Gerard was sustained in his final months by many wonderful friendships and by the remarkable palliative care provided by his niece, Liz Crock, and her husband, Giancarlo Di Stefano.

Mary Crock and Hugh R Taylor AC

ANDREW DENT AM
1955—2007

Andrew Dent, formerly director of Melbourne's St Vincent's Hospital emergency department, died on 10 June 2008, at the age of 53. Andrew was a great man whose leadership, clinical example, research and advocacy developed emergency medicine and medical education in Australia and the Pacific region. His life and career spanned many experiences in different countries, and he encountered a great number of people who came to respect, admire and love him.

After graduating, Andrew undertook general surgical training in the United Kingdom then spent two years living and working in Cameroon, West Africa. After returning to Melbourne and beginning a new career in emergency medicine at the Austin Hospital, Andrew took his young family to East New Britain Province in Papua New Guinea (PNG). His skills as both an emergency physician and surgeon were essential when the Rabaul volcano erupted in 1994, sending the region into chaos and subsequently rendering the hospital and local areas uninhabitable. Andrew's connections with PNG continued on his return to Australia through medical training and clinical work. These activities will continue through the St Vincent's Pacific Health Fund, which Andrew established as his lasting legacy.

Andrew commenced as director of the emergency department at St Vincent's in 1995. With strengths in medical education, academic research and great

Andrew Dent

personal charisma and integrity, Andrew established a cohesive, compassionate and innovative department during his twelve years of leadership. He was forced to step down from this role last June, with the sudden and devastating diagnosis of colon cancer. True to his great strength of will and character, Andrew continued to teach and work at St Vincent's throughout his illness and treatment, maintaining a presence there until shortly before his death. The great number of awards and qualifications achieved by Andrew were largely unheralded during his life, mainly through his own preference. Apart from his fellowships in surgery and emergency medicine, Andrew was also a fellow of the Australasian College of Tropical Medicine and, in 2002, completed a Masters in Public Health (International Health) at Melbourne. His Australasian College for Emergency Medicine Teaching Excellence Award was made in 2004, membership of the Order of the International Federation of Emergency Medicine in April 2008 and, the day before he died, membership of the Order of Australia for service to emergency medicine as an academic, researcher and educator. He was an enthusiastic researcher whose published papers explored international medicine, medical education and the many issues facing vulnerable people attending emergency departments.

His leadership in developing emergency medicine, both at St Vincent's and the wider medical community, was through clinical innovation, research and specialist education. He broke down workplace hierarchies so that staff from all disciplines could work together, focusing on patients and their well-being. Andrew was a true visionary with a powerful social conscience and he moulded the emergency department to epitomise the values it espoused: justice, unity, excellence, human dignity and compassion.

Andrew's commitment to medical education operated at all levels of training and experience: he was director of intern and prevocational training at St Vincent's and a mentor for junior doctors. He was also a member of the Postgraduate Medical Council of Victoria and its education subcommittee, where he led national projects investigating the educational needs and activities of prevocational doctors and the capacity of emergency departments to provide training opportunities. Andrew was central in developing the Melbourne undergraduate emergency medicine curriculum, overseeing its delivery and assessment. He was a creative educator, making use of new techniques, such as simulation, to provide learning opportunities for medical students, prevocational doctors, emergency medicine trainees and specialists, and rural GPs. The theme of selfless service pervaded Andrew's funeral, which hundreds of people representing family, medical, corporate and social services attended. His untimely death at the peak of his career is a great tragedy but his life inspires us to carry on his vision of compassionate care, clinical excellence and selfless advocacy.

Georgina Phillips and Brendan Crotty

ANDREW DENT STUDENT SCHOLARSHIP

The St Vincent's Pacific Health Fund (www.stvpacifichealth.org) was formally established in 2008 through the inspiration and generous legacy of Andrew Dent. The fund aims to promote and enable educational opportunities for health workers in the Pacific region; to assist in building capacity of health services and personnel through the provision of financial grants; and to promote and establish links between St Vincent's Hospital, Melbourne and health workers and institutions in the Pacific region. The fund is managed by volunteers who have experience and interest in PNG and the Pacific Islands, is administered by the St. Vincent's Hospital Foundation and is financed by donations.

The Andrew Dent Student Scholarship has been established in honour of Andrew by the fund in accordance with its aims. The scholarship is open to individual students in the health sector to help support volunteer work, student electives and study trips within the Pacific Islands region. Applications should include a description in 500 words or more of the aims, benefits and expected outcomes of the proposed placement, as well as a proposed budget detailing all sources of income. It is hoped that student experience of working and living in the Pacific will lead to life-long professional and personal links with the region of benefit both to the individual student and the Pacific Islanders they encounter. Applications for the scholarship can be made directly to the fund for consideration prior to 30 November, and grants in the order of AUD $1000 - $2500 will be favoured.

Contact details, applications and donations (tax deductible):
St Vincent's Pacific Health Fund
Emergency Department
St Vincent's Hospital
PO Box 2900
Fitzroy 3065 Australia
Contact: Dr Guy Sansom
E: stvpacifichealth@svhm.org.au
T: (+61 3) 9288 4388

IN BRIEF

CONGRATULATIONS TO ALUMNI, STAFF AND STUDENTS

Dominic Barbaro (MBBS 1970)—AM for service to medicine as a general practitioner, through professional roles with a range of health and aged care organisations, and to the Italian community. *James Bishop (MBBS 1972, MD 1990, MMed 1999)*—AO for service to medicine, particularly in the field of cancer treatment and research and through the development of innovative policy, improved public awareness and service delivery programs. *Elizabeth Carew-Reid (MBBS 1970)*—OAM for service to medicine as a general practitioner, particularly through the provision of paediatric palliative care, and to the community. *Choong Foo (MBBS 1960)*—OAM for service to medicine as a general practitioner, educator and advocate of traditional Chinese medicine, and to the community. *Michael Good (PhD 1983)*—AO for service to medical research, particularly in the fields of infectious disease immunology and vaccine technology, through leadership roles at the Queensland Institute of Medical Research and contributions to education. *Jane Gunn (MBBS 1987, PhD 1998, General Practice)*—BioMed Hot 100 author. *Jack Hansky (MBBS 1956)*—AM for service to medicine in the field of gastroenterology, particularly through research and clinical practice in the treatment of gastric bleeding, to medical education, and to the community. *William Heath (PhD 1988, Microbiology & Immunology)*—elected Fellow of the Australian Academy of Science. *John Hopper, (MEGA Centre, Population Health)*—AM for service to public health and the biomedical sciences, particularly in the field of genetic epidemiology as an academic and researcher, and to the Australian Twin Registry. *Priscilla Kelly (WEHI)*—commendation, Premier's Award for Medical Research. *Gordon Lynch (PhD 1992, Physiology)*—Research Higher Degree Supervision Award, University of Melbourne Awards for Excellence in Teaching and Supervision. *Patricia Mackay (GDip Anaesthetics 1952)*—OAM for service to medicine in the field of clinical anaesthesia, particularly as a contributor to the improvement of quality and safety of patient care, and to the community. *Hugh McDermott (PhD 1989, Otolaryngology)*—Inaugural Callier Prize in Communication Disorders. *John McNeil (PhD 1982)*—AM for service to preventive medicine and to epidemiology as a researcher and educator and as a contributor to the development of public health policy. *Spiro Moraitis CBE (MBBS 1957)*—AO, for service to the Greek community through a range of executive roles with migrant assistance and aged welfare organisations, and to medicine as a general practitioner. *Peter Phelan (Paediatrics)*—AM for service to medicine, particularly in the area of paediatrics as an academic and administrator and through contributions to the development of health care delivery and clinical practice management. *Jonathan Rush (MBBS 1961)*—AM for service to medicine, particularly in the field of orthopaedics, as a clinician, researcher and educator, and through monitoring and review of the quality of surgical care in Victoria. *Jonathon David Schertzer (PhD, Physiology)*—Chancellor's Prize. *Robert Thomas (MBBS 1965, MS 1990)*—OAM for service to medicine through surgical oncology and cancer services in Victoria. *Geoffrey Tregear (Howard Florey Institute)*—elected Fellow of the Australian Academy of Science. *Linda Wakim (PhD, Microbiology and Immunology)*—commendation, Premier's Award for Medical Research. *Benjamin Wei (MBBS 2000, PhD 2006, Otolaryngology)*—winner, Premier's Award for Medical Research. *Victor White (MBBS 1948)*—AM for service to medicine in the fields of obstetrics and gynaecology through clinical, teaching and administrative roles and contributions to a range of professional organisations

STUDENT PRIZES AND AWARDS

2007 UNDERGRADUATE STUDENT PRIZES AND AWARDS

GA Syme Exhibition—*Alana Bruce*; AMS Prize—*Piraveen Pirakalathanan & Kah-Lok Chan*; Australian Medical Association Prize—*Jodi Keane*; Carl de Gruchy Award—*Marianne Mok*; Clara Myers Prize in Surgical Paediatrics—*Mervyn Kyi*; David Danks Essay Prize for Human Genetics—*Maryam Jahanshahi*; Dermatology Prize—Bonnie Swan; Dr Kate Campbell Prize—*Nan Gao*; Dwight's Prize in Integrated Clinical Studies 2004—*Hannah Skrzypek*; ESJ King Prize —*Stavroula Papapostolou*; Edgar and Mabel Coles Prize—*Fairlie Wayne*; Edgar Rouse Prize—*Allison Mo*; Fulton Prize—*Allison Mo*; Geoffrey Royal Prize in Clinical Surgery—*Ajay Iyengar*; Geriatric Medicine (Aged Care) Prize—*Rachel May*; GlaxoSmithKline Semester 5 Prize—*Stavroula Papapostolou*; Harold Attwood Prize in Pathology —*Hannah Skrzypek*; Hedley F Summons Prize (for Otolaryngology)—*Matthew James Lin*; Herbert Bower Memorial Prize—*Kate Robson*; Herman Lawrence Prize in Clinical Dermatology—*Matthew James Lin & Li Mei Corinne Cheng*; Howard E Williams Prize—*Mervyn Kyi;* Ian Johnston Prize in Reproductive Medicine/Biology—*Melissa Beitner*; James Stewart Bequest—*Tony Chen & Aaron Wong;* Jamieson Prize—*Sophie Oldfield*; John Adey Prize in Psychiatry—*Diana Chessman*; John Cade Memorial Medal in Clinical Psychiatry—*Diana Chessman;* Katharine Woodruff Memorial Prize – Palliative Medicine—*Ingrid Laemmle-Ruff*; Keith Levi Prize—*Sophie Oldfield*; Max Kohane Prize—*Jodi Keane*; Peter G Jones Elective Essay Prize (UMMS Elective Essay Prize)—*Sam Hardwick, Ingrid Laemmle-Ruff, Arnab Ghosh & Matthew Lin*; Prize in Clinical Gynaecology—*Allison Mo*; RACGP Victoria Faculty Prize—*Bo Xu*; RANZCOG Women's Health Award—*Sarah Mansfield*; RAPP (The Rehabilitation, Aged Care,

Palliative Care and Psychiatry of Old Age Prize)—*Ingrid Laemmle-Ruff;* Rehabilitation Medicine Prize—*Ingrid Laemmle-Ruff;* RL Simpson Memorial Fund—*Victoria Snowball & Nazila Jamshidi*; Robert Gartly Healy Prize in Medicine—*Sophie Oldfield;* Robert Gartly Healy Prize in Obstetrics—*Jodi Keane;* Robert Gartly Healy Prize in Surgery—*Hannah Skrzypek;* Robert Yee Prize in Medicine—*Andrew Woolley;* Royal Australian and New Zealand College of Ophthalmologists' Prize—*Dai Ni (Danielle) Zhang;* Royal Children's Hospital Paediatric Handbook Award—*Fairlie Wayne & Kacey Williams;* Sir Albert Coates Prize—*Stavroula Papapostolou;* Smith and Nephew Prize—*Allison Mo;* The Ilana Rischin Award for Outstanding Achievement by an International Student in Medicine—*Shuli Cheng;* Therapeutic Guidelines Award—*Mary Qian;* Thomas and Elizabeth Ross Scholarship—*Mali Okada;* Vernon Collins Prize in Paediatrics—*Vi Hoang Kieu;* Victorian Metropolitan Alliance Prize in General Practice—*Mervyn Kyi;* Walter & Eliza Hall Exhibition—*Stavroula Papapostolou*.

2007 DEAN'S HONOURS LIST

Semester 12. Colleen Chew, Daniel Mark Golshevsky, Mervyn Kyi, Debra Weng Sze Leung, Allison Gwun-Yee Mo, Stephanie Ailsa Muller, Elizabeth Kate Nairn, Andrew Jonathan Neal, Sophie Bridget Oldfield, Warrick James Pill, Kate Joanna Robson, Dilraj Sidhu Singh, James Robert Stegeman, Jason Anthony Trubiano, Fairlie Frederique Wayne, Jennifer Pui Jan Yan, Sarah Ann Yong

2008 DEAN'S AWARD FOR EXCELLENCE IN A PHD THESIS

Each year five Faculty PhD candidates are selected for the Dean's Award for Excellence in a PhD Thesis. The following citations outline the theses submitted by the winning candidates for 2008. The top two candidates are submitted to the University for consideration for the Chancellor's Prize for Excellence in a PhD Thesis in the category Medicine, Dentistry and Health Sciences, won this year by Jonathan Schertzer.

Non-viral gene transfer of growth factors in skeletal muscle: implications for injury, regeneration and disease

Jonathan David Schertzer, Department of Physiology

Jonathan developed a new method of non-viral gene therapy to deliver growth factors and therapeutic agents that can enhance skeletal muscle growth and repair. This method of gene therapy has significant implications for improving muscle function, and for treating muscle injuries and muscle diseases such as muscular dystrophy. His thesis has resulted in 21 publications in international, peer-reviewed journals including eight first-author papers in some of the most prestigious journals such as *American Journal of Pathology, Molecular Therapy, Pharmacology & Therapeutics* and *Endocrine Reviews*, a testimony to the international standing of the work. Both examiners praised the significance and excellence of Jonathan's outstanding thesis, commenting on the technically complex and ultimately successful approach taken and the important and original contribution his work has made to the field of muscle biology.

The evolution of mammalian noncoding RNAs and their expression in development and immunity

Kenneth Chung-Ren Pang, Department of Medicine, Austin Hospital/Northern Hospital

The discovery and elucidation of the functional biology of ncRNAs is a key objective in biology, as their reach into the control of fundamental cellular processes seems endless. Providing ncRNA database resources, identifying new groups of ncRNAs and proving their functional role in specific celluar functions are high priorities in the area. Kenneth explored the hitherto hidden role of non-protein-coding RNA in mammals. In studies carried out in Melbourne, Brisbane and Tokyo, he showed that most of the genome is transcribed, identified thousands of new genes, and developed new databases, leading to eight publications in prestigious journals, including the journal *Science*.

Allosteric modulation of G protein-coupled receptors

Lauren May, Department of Pharmacology

Lauren comprehensively investigated the allosteric modulation of G protein-coupled receptors, using prototypical receptors for this field. Her examination included the role of cysteine modification in the actions of allosteric regulation of A1 receptors. This work has resulted in important new insights into receptor function and the development of novel drugs. Her thesis has resulted in six first-author papers in journals including *British Journal of Pharmacology, Journal of Pharmacology and Experimental Therapeutics* and *Molecular Pharmacology*.

The potential of stem cells for neuronal replacement in the deafened mammalian cochlea

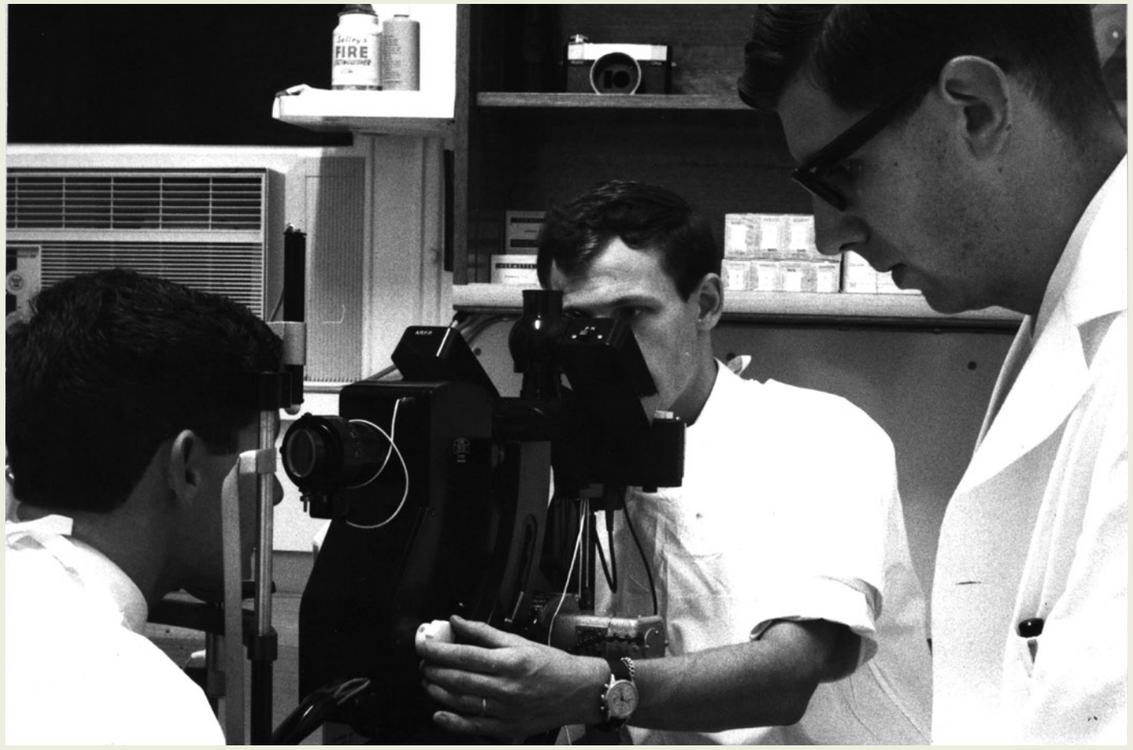
Bryony Coleman, Bionic Ear Institute

Bryony investigated the potential of stem cells to provide replacement auditory neurons to the deaf cochlea. These studies describe important cues for the differentiation of auditory neurons in-vitro, and suggest strategies for their successful engraftment in-vivo. A more robust auditory nerve may improve cochlear implant performance. International recognition of her research included publication of papers in high impact peer-reviewed journals, including the journal *Stem Cell* and funding to attend international conferences. Following the completion of her PhD, Bryony received a Victoria Fellowship which she used to complete an advanced stem cell training course in Los Angeles before spending time at Harvard University and Johns Hopkins University. Her research has the potential to achieve significant public health benefits in hearing science and has the potential for application in other areas of medical bionics and neural degeneration.

On the automacity and specificity of human mirror system - neural and behavioural studies on the perception and execution of action

Trevor Tshun-Jea Chong, School of Behavioural Science

Trevor investigated the properties of the human 'mirror neuron system'—a network of brain areas underlying our ability to execute actions and perceive those of others. Over the course of his doctoral degree he completed an extensive series of behavioural and neuroimaging investigations exploring the parameters which govern the function of the mirror system in humans. The findings of these studies have important implications for theories of action recognition, imitation, socialisation and language evolution. His research facilitates a deeper understanding of the evolutionary links between mirror neurons and the human capacity for imitation, empathy and language and provides important clues concerning the neural basis of such clinical syndromes as autism and apraxia, which are thought to be due to lesions in the putative human mirror system. His thesis has resulted in publications in journals including *NeuroImage* and *Psychological Inquiry*.



Operating the stereo fundus camera

FROM OUR COLLECTION

THE GERARD CROCK COLLECTION

The compact lens corneal cutter (see page 34) and stereo fundus camera, developed by Gerard Crock and his team at the Department of Ophthalmology, both form part of a large collection of over 1000 items, comprising photographs, documents, design drawings and instruments, which he offered to the Medical History Museum in 2003. Funding for the huge task of sorting, identifying, cataloguing and preserving the collection was provided for by the John Reid Charitable Trusts, whose generous donation of $10,000 has seen the project completed, culminating in a commemorative exhibition, *Microsurgical Innovation: Ophthalmic Instrumentation*, currently on display at the Medical History Museum.

Many of the instruments and diagnostic methods and equipment Professor Crock introduced are still in use today. Some have found application in areas other than ophthalmology, most notably in reconstructive micro-vascular surgery, whilst others have provided the basis for subsequent research and development by later ophthalmologists and biomedical scientists.

This exhibition, and the Gerard W Crock collection from which it is drawn, are a wonderful resource to inspire and attract the attention of future designers and researchers as an example of what can be achieved through fine leadership and the enquiring minds of a team of highly talented and original thinkers.

The Medical History Museum is located on level two of the Brownless Biomedical Library on the University's Parkville campus, and is open from 9am to 5pm, Monday to Friday.

Contact details:
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W: www.chs.unimelb.edu.au/programs/jnmhu/museum

BOOKS

Holding Men:
Kanyirninpa and the health of Aboriginal men
by Brian McCoy, Aboriginal Studies Press, 2008 Paperback, pp296, illustrated, rrp $34.95

Brian McCoy is a Jesuit priest who has spent nearly four decades living and working in Indigenous communities in Australia and overseas. In this book he explores how Indigenous men understand their lives, their health and their culture. Using conversations, stories and art, the author shows how Kimberley desert communities have a cultural value and relationship described as kanyirninpa or holding. While young Indigenous men's lives remain vulnerable in a rapidly changing world, Brian McCoy believes that an understanding of kanyirninpa may provide the hope of change and better health for all.

Recipes for a Great Life
simple steps to wellbeing and vitality
by Gabriel Gaté and Rob Moodie, Hardie Grant Books, 2008
Paperback, pp265, illustrated, rrp $34.95

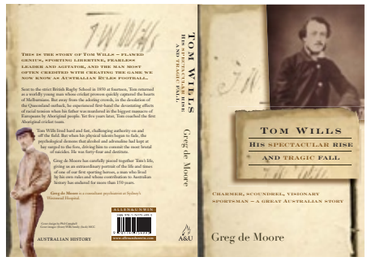
True wellbeing and happiness come from having a balanced approach—to what we eat and what we do to maintain our physical, emotional, intellectual and spiritual fitness. However, acquiring and keeping that balance isn't always easy. Popular chef Gabriel Gaté and Rob Moodie (MBBS 1976) have drawn on their vast experience in these areas to help their readers get the most out of life. The result is a collection of nourishing recipes—with a difference—uniquely combining Gabriel's inspiring and healthy food recipes, and Rob's stimulating step-by-step 'recipes for body and soul'.

Trachoma
A blinding scourge from the bronze age to the twenty-first century
by Hugh R Taylor, 2008
Hardback, pp304, illustrated

Hugh Taylor (BMedSc 1970, MBBS 1971, GDipOphth 1975, MD 1979) presents a fascinating and comprehensive review of trachoma, from ancient times through to the present. He includes predictions and recommendations for its elimination. Trachoma has been targeted by the World Health Organisation for elimination by 2020 and currently affects 84 million children in 56 countries and blinds 1.5 million adults. This seminal and highly readable work will be invaluable to anyone who is interested in trachoma, but will also appeal to those interested in the interface of public health and development, the history of medicine or health care development.

Available for AUD$144, inc postage & handling, from Judith Carrigan, School of Population Health, University of Melbourne, Level 5, 207 Bouverie St, Carlton, Vic 3053, Australia or via email: judithc@unimelb.edu.au

Tom Wills
His spectacular rise and tragic fall
by Greg de Moore, Allen and Unwin, 2008
Paperback, pp342, rrp $32.95



Tom Wills was the inspiration behind the creation of Australian Rules football. Born in 1835, 180 miles south of Sydney, he overlanded to the colony of Victoria in 1840 where his father, Horatio Wills, set up a station in the shadow of Mount William in the Grampians. There Tom befriended the local Djab Wurrung people. It was a time of extraordinary conflict and his father was implicated in the murder of more than one Aborigine. An only child until the age of seven, Tom was despatched to boarding school in Melbourne at the age of ten, then, at 14, travelled alone to Rugby School in England.

He became the outstanding cricketer of the period at Rugby, learning the craft of captaincy, batting and the new-fangled art of round arm bowling instead of the underarm action popular in Melbourne, and his name was writ large in the national papers of the day. He played Rugby school football and his name was plucked from the hundreds of boys, as a boy to watch and admire.

Returning to Melbourne in December 1856, Tom rapidly became the darling of the Melbourne set, fawned over by politicians, governors and women. His father, who always intended he become a lawyer, organised employment for him in Melbourne. But the name of Tom Wills was found everywhere but in a staid office. His voice was the loudest and most potent in reshaping the dreary sporting landscape that was Melbourne when he returned. On 10 July his famous letter calling for a football club to be formed was published and, within a year, Tom headed the rule writers of what was to become the code of Australian Rules football. As captain of the Victorian cricket team he was adored and wanted by every cricket club in the colony.

In 1861, with Tom's legal career languishing, his father took him and several others up to central Queensland to their new property, Cullin-la-Ringo. There, while Tom was absent collecting goods, his father and 18 other settlers were murdered by the local Aborigines. When Tom returned to the campsite, all that remained were scattered goods, two grave sites and the damp and bloody grass stains of the attack. He remained on the property for a further two-to-three years but suffered from nightmares and his drinking, begun in his youth, became an increasing problem.

Remarkably, given his father's murder, he coached a Western District Aboriginal cricket team which played against the Melbourne Cricket Club on Boxing Day 1866—his name on everyone's lips as Victorian society confronted the sight of ten black cricketers and their white captain.

By the early 1870s Tom's bowling, the cause of so much Victorian success, was scrutinised and he was labelled a chucker. He became the first man to be called for throwing in contests against NSW.

Gradually, away from the platform of fame, Tom's life deteriorated and in the autumn of 1880, whilst in the throes of alcohol withdrawal, responding to the hallucinations that tormented him, he took his own life.

Greg de Moore (BMedSc 1980, MBBS 1982) is now a consultant psychiatrist at Westmead Hospital in Sydney. His study of Wills' amazing life stems from his interest in male suicide and he says it has been a privilege to have uncovered many previously unknown archives in putting together this compelling biography.

OUR SUPPORTERS

We are very grateful for all the support we receive from alumni and the wider community and pleased to be able to list here those who have donated $500 or more between 1 June 2006 and 30 September 2008. Thank you also to those donors who wish to remain anonymous.

LUMINARIES ($100K+)

Allan J Myers, AO, QC & Maria J Myers AO, Evercharge Pty Ltd

VISIONARIES ($50K-$99,999)

Austin Health, Australian Rotary Health Research Fund, Graham V Brown, Inner Wheel Australia, Patricia M Desmond, Robert N Gibson, Melbourne Pathology Pty Ltd

PRINCIPALS ($25K-$49,999)

Les & Eva Erdi, Kevin & Tanith O'Brien, Hand Ogilvie & Breheny, Henderson & Ball Lawyers, Straumann Pty Ltd, James J Tehan, Tehan Pastoral Company, The Royal Australasian College of Physicians, Transport Accident Commission, Tress & Associates

BENEFACTORS ($10K-$24,999)

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