MJA Careers

Research in practice

Physician–scientists are at the crux of medical research, so what are the pathways available for those wanting to make a career combining both the lab and the clinic?

While his colleagues have been honing their surgical skills in operating theatres around the country, Dr Arjun Iyer has chosen a different route.

The cardiothoracic surgical trainee has taken a pay cut and instead spent large chunks of the past three years making models with milk bottles and carefully assessing pig hearts.

At the end of the year he plans to submit his PhD thesis and return to full-time training, but before he receives his surgical qualification in four years' time, the research he has done may well have shifted the parameters for heart transplants here and around the world.

"I've been very lucky I've been given this opportunity", Dr Iyer tells the *MJA*.

"I see it as an investment in both doing some cutting-edge research that's going to lead to better patient care and getting an opportunity to become better with my hands and a more skilled surgeon."

Dr Iyer is a University of New South Wales doctoral student at the Victor Chang Cardiac Research Institute which is affiliated with St Vincent's Hospital.

Each week he does two days' clinical theatre work under the guidance of some of the country's top heart surgeons, including his supervisors Professor Peter Macdonald and Dr Kumud Dhital.

At other times he is investigating how to increase the viability for transplantation of hearts donated after cardiac death.

This work has the potential to increase the number of hearts available for transplantation by up to 20 per cent and is where his hitherto unknown model-making skills have come in handy.

The experience has given Dr Iyer great enthusiasm for research and the possibility of combining it with future work as a consultant.

Researcher–clinicians were once central to medical research in Australia.

In the past, they've been the source of many valuable medical research hypotheses, including the initial observation by Melbourne psychiatrist Dr John Cade that the use of lithium was effective in the treatment of bipolar disorder.

But the final report from the federal Strategic Review of Health and Medical Research led by Simon McKeon, AO, and published in April this year, found the amount of research being done by Australian medical practitioners is diminishing.

The review couldn't put a figure on the number of doctors now engaged in research but said it was widely agreed that the figure is shrinking.

Among other factors, the McKeon review heard that the problem lay with inadequate funding set aside for clinician-directed research, the apparent income disparity between work in the clinic and in the lab, and the lack of a clear career pathway for those wanting to combine the two.

In response, its recommendations include increasing the number of National Health and Medical Research Council (NHMRC) practitioner fellowships to 1000 over 10 years and embedding research training as part of education and accreditation in order to support dual researcher/practitioner education pathways.

The increased number of practitioner fellowships, in particular, could potentially compensate for the extreme difficulty for current part-time researchers to secure NHMRC grants that even full-time researchers only have a 15 per cent chance of receiving.

Dr David Celermajer, the Scandrett Professor of Cardiology at the University of Sydney's Heart Research Institute, has maintained a combination of research and clinical work since graduating in 1983 and is now one of Australia's leading medical researchers.

He first described the physician–scientist as an endangered species a decade ago and says many of the same difficulties exist today.

"There are a large group of extremely bright young physicians who are excited by the idea of research, but the opportunities to fulfil that dream are still extremely limited", Dr Celermajer says.

Nevertheless, while it is more difficult for those wanting to combine the two than it has been in the past, Dr Celermajer and others at the forefront of medical research say the benefits for doctors, patients and our health system of being able to bring clinical experience

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> *"Research is hard. You've got to keep putting in time and energy and compete for your ideas to bear fruit, to make an impact and to attract funding"*
>
> Professor Emeritus John Chalmers

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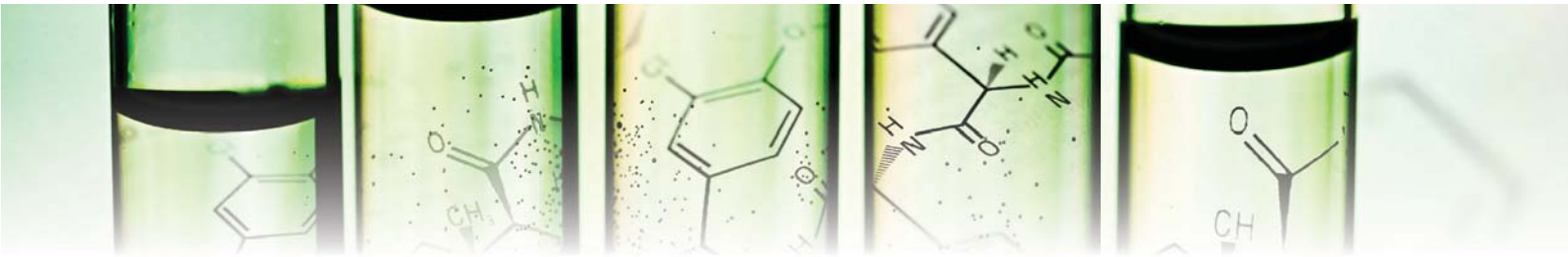


to medical research, and to put the best and latest medical knowledge to practice in a clinical setting, are huge.

And while the pathway may not be as clear as for other medical careers, it can be rewarding on many levels.

This is particularly so at a time when medical specialties have become so competitive, says another of the country's pre-eminent medical researchers, Professor Emeritus John Chalmers.

Professor Chalmers' work on the links between the brain and hypertension over four decades has affected the way patients are treated around the world and he continues to publish up to 30 papers a year.

"Research is hard. You've got to keep putting in time and energy and compete for your ideas to bear fruit, to make an impact and to attract funding", he says.

"It is hard. It is much harder than a constant stream of patients. It's also much more exciting if it works."

A research career can commence at any time, says Dr Chalmers. Many begin as Dr Iyer's has, as part of specialist training and such research qualifications are now necessary in many specialties in order to qualify for top positions in teaching hospitals or senior lectureships.

Selecting the right supervisors and finding mentors working in the field in which you are interested are very important at this stage.

In Dr Iyer's case, the transplant research he wanted to be part of wasn't taking place in Adelaide where he began his training at the Royal Adelaide Hospital so he sought the advice of his mentors at the hospital and with their encouragement applied for the position at the Victor Chang Cardiac Research Institute.

Part-time doctoral work is very different to straight training.

Like many, Dr Iyer has had to supplement his original research funding with private philanthropic grants and recently received a $50 000 Avant scholarship.

There may be less money in his bank account, but he says there has been unexpected bonus.

"When you have this research life, although it's combined with part-time clinical, you do get quite a few weekends off", he says.

"That's actually quite nice to go out and enjoy the sunshine, maybe get some vitamin D and go for a run on Saturday morning and go out for dinner."

For doctors already practising full-time, Dr Chalmers recommends establishing links with a specialty clinic doing research as a way to begin a combined career.

This may involve offering to do half a day each week in an outpatient clinic and joining a research project already underway.

Over the longer term it should be possible to contribute further, offering to draft papers and prepare abstracts.

Dr Chalmers says a part-time masters of public health can provide the epidemiological skills and statistical nous to do further analysis.

Primary care hasn't had the tradition of combined clinician–researcher roles that have existed in other specialties through academic positions and staff specialist roles in teaching hospitals.

However some of the top schools are now considering making provisions to incorporate higher degrees into general practice registrar training.

Associate Professor at the University of Melbourne, Dr Marie Pirotta spends two days a week in general practice in addition to her roles in teaching and research. She says the two are inextricably linked and complement each other.

"I see things at work that I think will be great research questions and I learn things in my reading for research or teaching that refresh my clinical work", Dr Pirotta says.

"I also have an understanding of the problems that come up in general practice — the messy complexities of working in general practice and the challenges of being a GP in a busy environment.

"So when I put on my other hat as a researcher I'm asking GPs to work with me in research projects I'm very sensitive to how hard that is."

And despite Dr Iyer's initial apprehension at committing three years to research, with the end of his first research project in sight, he agrees that the benefits for those involved in both patient care and research are great.

"In hindsight I have no regrets whatsoever because I think there's no point in rushing training", he says.

"I don't see it as lost time."

Annabel McGilvray

Fully wired hospital for Hervey Bay

A 96-BED, $87.5 million private hospital to be built at Hervey Bay on Queensland's Fraser Coast will be Australia's "first fully integrated digital hospital", says UnitingCare Health.

Scheduled to open in August 2014, St Stephen's Hospital will come with advanced wireless technologies allowing all medical records, x-ray and pathology results, nurse call systems, phone systems and patient medical devices, such as blood pressure machines and infusion pumps, to be integrated.

Richard Royle, executive director of UnitingCare Health, said the technology would provide accessibility to "doctors and nurses anywhere in the hospital, whether at the bedside, or remotely on tablets, mobile phones, laptops or mobile computers on wheels".

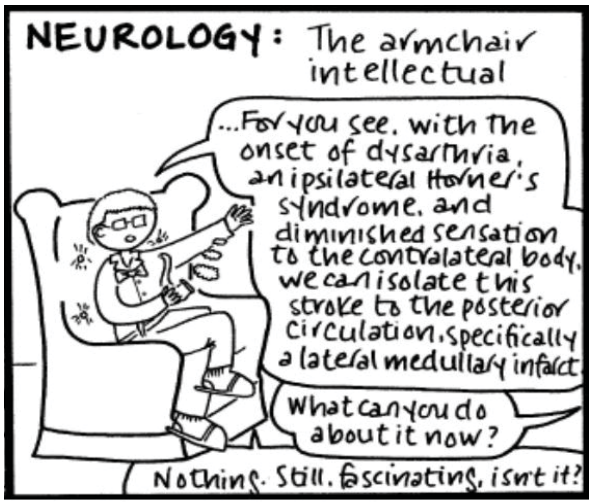
"For the first time clinicians will have information at their fingertips which will enable faster and more efficient decision making", he said.

The result would be improved sharing of information and results with patients, and less time wasted "trying to find other staff or equipment", said the hospital's director of nursing, Jill O'Brien.

"The digital capability of St Stephen's and the corresponding change and innovation in work practices is an exciting challenge for our clinicians", she said.

The federal government's Health and Hospitals Fund will provide $47 million towards the cost of construction.

No joke as neurologist shines



Dr Bruce Campbell is an award-winning neurologist with a pioneering drive to improve outcomes for stroke patients

There's a cartoon about neurologists which features an armchair intellectual in raptures about a recent diagnosis he has made. When asked what can be done to help the patient, he replies: "Nothing. Still, fascinating, isn't it?"[1]

It's a picture that makes Dr Bruce Campbell, consultant neurologist at the Royal Melbourne Hospital (RMH), laugh, but he's happy to report that things are different now.

"Neurology has changed a lot", he tells the *MJA*. "The joke about neurologists used to be that we would make a brilliant diagnosis and then admire the natural history of the disease.

"These days neurology has become a very therapeutic specialty, not just in stroke but in multiple sclerosis, epilepsy, Parkinson's, etc."

Dr Campbell is described by the public relations staff at the RMH has "one of our stars", and with good reason.

Now aged 36, he has been winning awards at regular intervals — four this year alone — since his schooldays at the prestigious Haileybury school in Melbourne.

The latest two — the Leonard Cox Award from the Australian and New Zealand Association of Neurologists (ANZAN) and the Chancellor's Prize from the University of Melbourne — are for excellence in the research that led to the recent awarding of his PhD.

Dr Campbell is investigating whether an intra-arterial clot retrieval procedure improves patient outcomes when added to intravenous (IV) tissue plasminogen activator (tPA).

"When you block a blood vessel in the brain, some tissue around it dies rapidly but often there is a substantial region that is not functioning due to low blood flow, but could be saved if the blockage is opened quickly", he says.

"We can use advanced MRI [magnetic resonance imaging] or CT [computed tomography] imaging to estimate what is dead and what is salvageable.

"MRI has been the more validated method but rapid access to CT is much more practical in acutely unwell stroke patients.

"We've been working on refining the MRI estimates of tissue status and a large part of my PhD involved translating the paradigm to CT."

After completing his PhD, Dr Campbell went looking for a new challenge.

"To me, the natural extension was to implement the findings of our imaging research to select patients most likely to benefit from restoration of blood flow and combine this with technological advances in minimally invasive procedures to remove the blood clot causing the stroke", he says.

"EXTEND-IA is a randomised controlled trial we have designed that does just this."

Dr Campbell says three recent studies in the *New England Journal of Medicine* which were unable to demonstrate the benefit of similar clot-retrieval approaches have emphasised the critical need for an improved approach to patient selection for intra-arterial therapy.

The EXTEND-IA randomised controlled trial comparing intra-arterial clot retrieval after IV tPA with IV tPA alone, for which Dr Campbell is the co-principal investigator and medical coordinator, is now underway across Australia and New Zealand.

"It will take 2 to 3 years to complete. We have 27 patients at the moment and we need around 100", he says.

Dr Campbell's interest in neuroscience came early, although clinical work wasn't his first choice.

"Initially I entered medicine thinking I would probably primarily be a research scientist", he says. "However, along the way I discovered that clinical work was a great challenge and a lot of fun.

"The brain is the major unexplored frontier in biology and that's a great place to work. There's certainly plenty of room for improvement in our treatments."

> "*The brain is the major unexplored frontier in biology and that's a great place to work*"

He completed a medical science degree before starting his MB BS at the University of Melbourne, and graduated in 2002, finishing second in his class and on the Dean's List in every year of his degree except the first.

As well as his work as a consultant neurologist at RMH, Dr Campbell has a full-time research fellowship at the University of Melbourne and is a telestroke neurologist with the Victorian Stroke Telemedicine Project. He is also national coordinator of the ANZAN Brainschool.

High achievement isn't confined to his professional life either.

Dr Campbell plays the violin with the Australian Pops Orchestra and Corpus Medicorum, the RMH's orchestra.

"I've played since I was 6 years old", he says. "It's a great outlet and has given me opportunities to travel and experience different cultures."

Dr Campbell's daily work is a meld of clinical work and research, seeing acute stroke patients in the emergency department, running a couple of outpatient clinics a week, and ward service on the Stroke Unit, as well as continuing his imaging research as part of his postdoctoral fellowship.

"My plan is to remain in this field of acute stroke care imaging and therapy", he says. "There's a synergy to my clinical and research work which I really enjoy."

1. Michelle Au. The 12 medical specialty stereotypes. http://bp2.blogger.com/_e85U4QbYG7s/Ru74v7u75xI/AAAAAAAAAbQ/AsnWxh3gh9M/s1600-h/12+medical+specialty+stereotypes+full.jpg

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Overseas Appointments

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Hamad Medical Corporation, Doha, Qatar

The Neurosciences Institute at Hamad Medical Corporation is seeking candidates for the post of Epileptologist at the Consultant and Senior Consultant level.

Hamad Medical Corporation (HMC) in Doha is the premier provider of secondary and tertiary care in Qatar and one of the leading healthcare organizations in the Middle East. As the driving force behind the nation-wide academic health system, HMC is committed to providing the safest, most effective and compassionate care to its patients.

About the Institute

Established in 2011, the Neurosciences Institute at HMC provides comprehensive care for patients with neurological conditions, across a number of specialty areas. Working within comprehensive Centers of Excellence focused on epilepsy, stroke, and mood disorders and psychosis, the Institute draws together clinical, educational and research activities, for the benefit of the patient.

The Epilepsy Center of Excellence will provide comprehensive acute and non-acute epilepsy services and facilities at multiple sites. Acute services will be provided through HMC's Department of Neurology at Hamad General Hospital, which currently cares for around 2,400 patients per year. The department provides clinical outpatient neurophysiologic services by board-certified EEG technologists and features intensive care facilities, as well as active training and educational activities. Specialist non-acute epilepsy services will be provided within an epilepsy unit, expected in January 2014, which will include a five-bed, inpatient epilepsy video monitoring unit (EVMU), dedicated inpatient epilepsy beds, and daily specialist clinics.

Qualifications and Duties

We are seeking highly-qualified applicants, Board certified in Neurology, and fellowship-trained in epilepsy/clinical neurophysiology, who are capable of providing expert diagnostic and therapeutic care for epileptic patients and general neurology coverage, if needed. Participation in medical education and research is expected. All suitable applicants will have the opportunity to pursue a faculty appointment at an appropriate level with Weill Cornell Medical College in Qatar.

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An exceptional and competitive recruitment package will be offered to successful candidates. This includes tax-free remuneration, accommodation, annual return air tickets, fully-sponsored conference attendance, and other benefits.

How to apply

Please send a current CV and covering letter (including relocation availability) to **e-recruitment@hmc.org.qa**

Applications will remain open until all vacancies are filled.

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University Appointments

THE UNIVERSITY OF HONG KONG
香 港 大 學

Founded in 1911, The University of Hong Kong is committed to the highest international standards of excellence in teaching and research, and has been at the international forefront of academic scholarship for many years. The University has a comprehensive range of study programmes and research disciplines spread across 10 faculties and about 100 sub-divisions of studies and learning. There are over 23,400 undergraduate and postgraduate students coming from 50 countries, and more than 1,800 members of academic and academic-related staff, many of whom are internationally renowned.

Non-tenure Track Clinical Professor/ Clinical Associate Professor/Clinical Assistant Professor (several posts) in the Department of Diagnostic Radiology (Ref.: 201300667)

Applications are invited for appointment as Clinical Professor/Clinical Associate Professor/Clinical Assistant Professor (several posts), on the non-tenure track, in the Department of Diagnostic Radiology, on a three- to four-year fixed-term basis, with the possibility of renewal.

Applicants should possess a medical qualification registrable in Hong Kong and the F.R.C.R. (UK) or equivalent, and preferably experience in the field of Magnetic Resonance Imaging (MRI) or Positron Emission Tomography (PET). Ability to speak Cantonese will be an advantage, although teaching, research and professional activities are conducted in English. They should also demonstrate a strong commitment to, and evidence of, excellence in teaching, to help reinforce and advance the strengths of the Department in the broad spectrum of medical and health sciences education; a track record of quality teaching and contributions to curriculum development; and capability of teaching postgraduate courses and supervising M.Phil. and Ph.D. students. For Clinical Professor/Clinical Associate Professor, applicants should have achieved an international standing, a distinguished record of scholarship appropriate to these levels with demonstrated leadership and significant experience in capacity building, supervising and mentoring early career researchers and research students. The appointees are expected to participate in, organize and develop undergraduate and postgraduate teaching programmes; conduct research; provide clinical services and patient care in the University's teaching hospitals; and contribute to administrative duties in the Department and the Faculty. In addition, they may be required to assist in the development of the HKU-Shenzhen hospital as a teaching hospital. Travelling to Shenzhen may therefore be necessary. Further information about the Department can be obtained at http://www.hku.hk/diaradio/.

A globally competitive remuneration package commensurate with the appointees' qualifications and experience will be offered. The appointments will attract a contract-end gratuity and University contribution to a retirement benefits scheme, totalling up to 15% of basic salary. Leave, medical benefits, and a monthly cash allowance subject to the Rules on Prevention of Double Benefits on Housing will be offered to the successful candidates. At current rates, salaries tax does not exceed 15% of gross income.

Applicants should send a completed application form, together with an up-to-date C.V., directly to the Department of Diagnostic Radiology (by fax to (852) 2855 1652, by e-mail to fomchan@hku.hk or by post to Room 406, Block K, Queen Mary Hospital, 102 Pokfulam Road, Hong Kong). Application forms (341/1111) can be obtained at http://www.hku.hk/apptunit/form-ext.doc. Further particulars can be obtained at http://jobs.hku.hk/. **Closes September 30, 2013.** The University thanks applicants for their interest, but advises that only shortlisted applicants will be notified of the application result.

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Executive Appointments

Director of Training & Director of Education

general practice training tasmania

General Practice Training Tasmania (GPTT) is responsible for the delivery of high quality general practice vocational training within Tasmania. GPTT is funded to deliver the Australian General Practice Training program (AGPT), the Prevocational General Practice Placement Program (PGPPP), the Overseas Trained Doctors National Education and Training (OTDNET) and Aboriginal Health strategic initiatives. For details, please visit www.gptt.com.au.

Director of Training:

Reporting to the CEO, this position will be primarily responsible for:

- Oversight of the education and training program
- High level censorship of registrar issues and training completion requirements
- Ensuring program adherence to guidelines, policies and standards
- Support and wellbeing of registrars within training programs

The successful applicant will have a working knowledge of ACRRM and RACGP training standards together with an understanding of the context of general practice training from undergraduate through to continuing education for GPs. It is essential the applicant is a qualified GP (FRACGP, FARGP or FACRRM), with current registration. Post-graduate qualifications in a field relevant to general practice education will be viewed favourably.

The Director of Training works closely with the Director of Education and will form part of the leadership team. The position will be part time, approximately 2 days per week. **Reference Number: 74910**

Director of Education:

Reporting to the CEO, this position will be primarily responsible for:

- The development of the content and method of delivery of the training programs
- The educational development of the participants of the programs
- The development and delivery of supervisor training

The successful applicant will have broad experience in general practice and primary health care and an understanding of the current context of general practice training from undergraduate through to continuing education for GPs. Sound understanding of education principles, curriculum development and methods of teaching is essential, together with the desire to work within a team framework as a member of the leadership team for the organisation. It is essential the applicant is a qualified GP (FRACGP, FARGP or FACRRM), with current registration. Post-graduate qualifications in a field relevant to general practice education will be viewed favourably.

The Director of Education works closely with the Director of Training and will form part of the leadership team. The position will be part time, approximately 2 days per week. **Reference Number: 74911**

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Please contact Sally Darke or Richard Durand on (03) 6337 3737 for further enquiries or a copy of the position description. To submit your application in strict confidence, please email your application to tasrecruitment@kpmg.com.au quoting the relevant reference number. Applications close on Friday, 30 August 2013 and must address the selection criteria as detailed within the position description.

GPTT0001

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