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Australian

Society for

Medical Research

President's Report

asmr

This has been another very busy few months for the ASMR against a backdrop of almost unprecedented political activity. Much has already been spoken, analysed and predicted about the result — but from our perspective one thing is clear, with a minority government now in place, there will undoubtedly be challenges ahead in the effective development and implementation of policy — particularly, the large scale, long-term and visionary policy that is required for HMR to become integrated into, and a pivotal component of, Australia's healthcare system.

It is fair to say that Australia, like many other countries around the world, is facing a watershed in the way that we view and implement the delivery of healthcare. Our future healthcare challenges are major — we have an increasingly ageing population, a seemingly unstoppable escalation in the incidence of chronic disease, and an unacceptable disparity in disease incidence amongst our indigenous and nonindigenous populations. These challenges are now well acknowledged, but what is less clear is how we can effectively address them.

There are also important issues concerning the wider implementation of effective healthcare — for example, how do we successfully realise the enormous potential of personalised medicine? There are challenges surrounding the effective translation of research not only into practice, but also into policy Above: ASMR Presidents Past and Present at the Melbourne ASMR MRW[®] Gala Dinner. From L–R: Rob Ramsay (2000); Bronwyn Kingwell (2005); Alison Butt (current); Andrew Sinclair (2004); Stella Clark (1995); Steve Wesselingh (1998).

newsletter

and preventative strategies — highlighting the importance of clinical researchers as a vital two way interface between basic research of clinical relevance and its translation into clinical practice. There is also a clear need for change in the economic climate of the health sector with its current, persistent focus on the acute end of the system — on consumption rather than production, instead of longer term, more systemic reform. In short, there remain very real and deep disparities between the quality of our HMR and the quality of our healthcare delivery.

While change may, by necessity, come from Canberra, it must be driven and championed by a coordinated, united and consistent advocacy campaign that engages both sides of government. As always, the ASMR together with other key stakeholders in the sector will play a leading role in driving this process — providing an evidence-based case to government supporting the establishment of HMR as a central component of a 21st century health system. Such radical and visionary health reform will not happen overnight, but it is becoming increasingly apparent that it *must* happen if our nation is able to adequately deal with the health needs of its citizens over coming decades.

In the shorter term, the ASMR's focus now shifts to another highlight of the HMR calendar — the 5th Australian Health & Medical Research Congress which will be held from 14–18 November at the Melbourne Prof. Bruce Neal — Health and medical research in the Asia Pacific

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Newsletter Editor-in-Chief, Dr Kathy Andrews Print Post Approved 25500300067



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Convention Centre. The 5th AHMRC is already shaping up to be another stellar event with an outstanding multi-disciplinary scientific program bringing together 24 societies and organisations across a wide range of health and medical research disciplines, from basic science through to translational research and a worldclass line up of international Plenary speakers.

The ASMR will be holding its National Scientific Meeting as part of the Congress, and this year's focus is on Infection and Disease with cross cutting themes in microbial replication, immunity, pathogenesis and ageing.

The Society is really excited to announce a special event at the 5th AHMRC — as part of the opening ceremony on Sunday 14th November, the ASMR will be hosting a forum entitled 'Health and medical research in the Asia Pacific region: the opportunities, the possibilities, the challenges'. It will take the form of a lively 'hypothetical', 'Q&A' style panel discussion, featuring eminent representatives from relevant sectors throughout the region, aimed at exploring the possibilities of a cooperative health and medical research funding initiative in the Asia Pacific. The forum is expected to be a real highlight of the Congress with Dr Norman Swan, award-winning health reporter and broadcaster acting as facilitator. As a prelude to this event, we are delighted to feature an article on health and medical research in the Asia Pacific in this edition of the ASMR Newsletter by Professor Bruce Neal from The George Institute for Global Health (opposite).

The ASMR will also be continuing its national career development program with another of our highly held as part of the Congress on Monday 15th November. Aimed at mid-career researchers, this year's event will be focused on The Key Ingredients to Running a Successful *Research Group*. Registrations are still open for all these events, so please visit the ASMR website for more details and I do hope that you can join us.

Kind regards

Alison Butt ASMR President

49th Annual ASMR National Scientific Conference — "Infection and Disease"

The Australian Research Congress

14-18th November 2010 Australian Health and Health Medical Medical Research Congress **Melbourne Convention and Exhibition Centre**

The 5th Australian Health & Medical Research Congress (AH&MRC) is just around the corner and we're gearing up for a fantastic time in Melbourne at the superb new Melbourne Convention and Exhibition Centre on the banks of the Yarra. A jam-packed program will kick off on Sunday November 14th with a special event organised by ASMR: Health and medical research in the Asia Pacific region: the opportunities, the possibilities, the challenges, which will be facilitated by the ABC journalist Norman Swan.

From Monday 15th–Thursday 18th, 23 societies, including ASMR, will be running programs covering the latest cutting edge research in their fields presented by 50 international and over 120 national speakers as well as delegate orals and posters selected from abstracts. A \$5000 best student poster prize is up for grabs supported by the CASS Foundation.

It's not too late to register and late abstract submissions will still be considered for poster presentation. Check out the website for full details http://www.ahmrcongress.org.au

> **Register today and join us in Melbourne** for what promises to be a very exciting event!



Health and medical research in the Asia Pacific

On Sunday 14th November, at the upcoming meeting of the ASMR, Dr Norman Swan will host the ASMR Forum, '*Health and medical research in the Asia Pacific region: the opportunities, the possibilities, the challenges*'. While the hour and a quarter available will only skim the surface, this is a grand theme well worth even an abbreviated discussion. The George Institute has built its reputation on its links with the Region and is a strong advocate for more and better collaborations in the Asia-Pacific.

The opportunities to perform really meaningful research in the Region are a key attraction. With more than a third of the world's population living in just two countries (India and China) even small improvements in health can translate into very large benefits. For example, reducing mean population blood pressure in China by just 2% would avert hundreds of thousands of premature strokes and heart attacks each year. With salt reduction strategies offering a highly plausible means of delivering such change, designing and resourcing the research that shows the Chinese government how to achieve this, is easy to make a priority.

In the clinical research fields the large, mostly untapped patient pools represent another significant opportunity. Vascular disease is now the leading cause of death in almost all of the Asia-Pacific and regional researchers and practitioners are keen to have evidence about the effects of novel drug therapies in their own patient groups. It has been easy to persuade industry and government funders to engage hundreds of sites in Asia in a series of large-scale evaluations of new therapies.

The possibilities for Australian researchers to get involved in research in the region are multitude. Like most Australian institutions, the George Institute and the University of Sydney are inundated with Asia's best and brightest students. Our senior staff are regularly sought to speak at Regional meetings and the enthusiasm of senior regionally-based academics for engagement is often unbounded. Bilateral resourcing arrangements have been useful for facilitating the initial exchanges but prolonged engagement has always required dedicated funding to support specific projects. Making the effort to have the relationship truly two-way, and to build, not drain, capacity from the partner organizations is also important. Australian research groups are actively seeking skilled researchers and many developing country academics see Australian institutions as an attractive base.

The challenges are of course also significant. Converting interactions with mostly inexperienced colleagues into real and sustainable research initiatives is difficult, time consuming and, as always, highly constrained by the funds available. In the George Institute's fields of research (chronic disease and injury) resourcing has been particularly hard to come by with most regional and international funding agencies still focusing their efforts on communicable diseases, maternal and child health. The need for chronic disease research in the Asia-Pacific is now becoming apparent to funders but the sums available remain small. Grants provided by local research agencies within the Region are mostly delivered in small sums through impenetrable mechanisms, requiring in depth local knowledge, strong local connections and the same predilection for bureaucracy that we need for dealing with the NHMRC. In the short-term at least, to be effective in the region, will require you to bring your own funding.

The key to success is to identify a specific fundable opportunity, work with skilled, experienced and connected individuals and develop a true collaboration that sees engagement of the Australian and regional partners from project design through to reporting and dissemination of results. We were fortunate at the George Institute to be able to invest significant funds in the establishment of wholly owned subsidiaries of the Institute in Beijing China and Hyderabad, India. Staffed entirely by Chinese and Indian national these centers have allowed us to recruit local researchers to work on international projects and grow a sustainable capacity in the Region. With strengthening links to leading local academic institutions these Centres are now developing, conducting and reporting local grown research targeting local problems with technical and financial support provided by colleagues in Australia as required.

Professor Bruce Neal The George Institute for Global Health, The University of Sydney

Register Now! ASMR Professional Development Day Monday 15th November, 2010, 10am – 5pm (followed by a mixer from 5–6pm) Australian Health and Medical Research Congress Melbourne Convention and Exhibition Centre Further information will be released on the congress web site over the coming weeks: www.ahmrcongress.org.au



Professor Bruce Neal

"The possibilities for Australian researchers to get involved in research in the region are multitude."



The Challenges and Delights of a Career as a Clinician Scientist



Clinician-Scientist, Professor Kathryn North

"Being a Clinician-Scientist makes you a better doctor..." More than the advection of the second second

We work in a research and funding environment where there is an ever-increasing emphasis on the need for medical research to translate directly into improved health outcomes. "Bench to bedside" is currently a very overused phrase. Never before has there been such a demand for an evidence base to clinical practice. The Clinician Scientist is a very valuable commodity in the medical research setting — and brings a unique perspective to the study of human disease that neither a clinician nor a scientist alone is able to achieve.

But the path to becoming a true Clinician-Scientist is not an easy one. Although there is a lot of enthusiasm among medical students and trainees to take this path, the realities associated with the length of training involved often take their toll. Think of the time commitment medical degree (minimum five years undergraduate or seven years in a graduate program +/- a year of research experience). Then, for a physician — three years basic training, the fellowship exam hurdle, three years of advanced subspecialty training, three years minimum for a PhD, a couple of years overseas postdoctoral experience, hopefully a re-entry fellowship. Clinician-Scientists are often in their late 30's before they get their first "real job". And the medical training years are often relatively barren in terms of publications and grants the currency of track record that you need to make it as a scientist. On the upside, the years of training are in retrospect — one of the most enjoyable periods of your career, with the focus on learning unburdened by administrative responsibility. Of course that is not something you realize when you are doing it.

Then there is the financial burden associated with long training, culminating in a marked discrepancy in salary compared to staff specialists and colleagues in private practice who have taken a more "abbreviated route" to become clinicians. This is often an accepted consequence of choosing the Clinician-Scientist path as those with a passion for research rarely do it for the money. But then there is the major issue of job insecurity. How can we encourage our best and brightest to pursue a career as a Clinician-Scientist when the final outcome is to be paid less than their colleagues and to be offered jobs with only 3–5 years of salary security and no travel allowance (compared, for example, to staff specialists who often have a much less stellar track record and have ongoing appointments with a generous travel subsidy). Clinician-Scientists are also initially less competitive with granting bodies compared to their basic science colleagues who have not had six years of clinical training to interrupt their research productivity. Perhaps the most formidable challenge for a Clinician-Scientist is finding enough "protected research time" (time with little or no patient care or administrative or teaching responsibility) — and getting someone to pay for that — especially when continuing clinical practice. It is rare for a hospital in Australia to fund a staff specialist to do a significant amount of research.

Nevertheless there are many delights in working at the "coalface" and focussing research on guestions that arise in the clinic. Being a Clinician-Scientist makes you a better doctor — the state-of-the-art becomes integrated into everyday practice, which, in turn, is rewarding to the patient. Research provides hope. "So what's happening in the research doc?" becomes a routine part of every medical consultation and the patients and their families are increasingly welleducated about significant recent advances in geneticbased therapies and novel pharmacological approaches. Clinician scientists not only learn to speak the language of medicine and science — they often have the ability to communicate easily with lay groups and the media — since they regularly practice on their patients. The integration of clinical practice and research is even more rewarding to the broader research and clinical teams working in such an environment as it provides immediacy and relevance to every experiment. Finally, being a clinician makes you a better scientist. Clinical practice helps you to maintain the big picture" and regular interactions with patients is grounding putting politics, funding problems and rejection of publications into perspective. And clinical practice gives you something to fall back on if the NHMRC success rate for grants or fellowships falls any further.

Job security and a well-defined career path is the very least we should be offering to encourage "the young people of today" to commit to a career as a Clinician-Scientist. University-based Clinical Academic appointments can provide a workable mix of clinical practice, research, teaching and service — but the funding is getting tight. Increasingly less money is available to appoint new academics despite a number of enthusiastic bright young things finishing their PhDs and subspecialist training — only to find there are no



secure jobs available to allow them to continue their research interests. We need more Clinician-Scientists working alongside basic scientists in Research Institutes with strong affiliations and close working relationships with teaching hospitals where the patients are cared for in a tertiary or quaternary referral setting, and excellence in clinical training and education is a focus. Enhancement of University support for early career researchers and Clinical Academics and NHMRC-funded Career Development Awards and Practitioner fellowship programs is essential. There is a burning need for specific programs to fund outstanding young clinician scientists throughout their training and career establishment phase — especially that difficult transition phase between completing subspecialty training and a PhD and establishing an independent research program. The continued success of the clinician-scientist model also requires that salary support continues to be available on a competitive basis well past the training years and takes into account the ongoing commitment to clinical practice that provides such a valuable impetus for further

research. What we do not want is gifted Clinician-Scientists, starved of research funding in mid-career, to be forced to place an increased emphasis on clinical practice — resulting in a vicious cycle of lower research productivity and eventual loss of their specialised skills to the medical research community. This is especially relevant in our current environment with NHMRC project grant success running between 18 and 22% — and Career Development Awards and fellowships being funded at increasingly lower levels.

Kathryn North, M.B.B.S, B.Sc (Med), M.D., F.R.A.C.P. Child Neurologist (AAN), Clinical Geneticist (HGSA) Douglas Burrows Professor Associate Dean, CHW Clinical School Faculty of Medicine, University of Sydney Head, Institute for Neuroscience and Muscle Research The Children's Hospital at Westmead



Dr Tina Bianco-Miotto, University of Adelaide

program, and this resulted in the introduction of the ASMR Mentoring Program in 2008. Dr Tina Bianco-Miotto (University of Adelaide) was one of the first ASMR members to join the ASMR Mentoring Program. In the following interview with Dr Roger Yazbek, Tina discusses the benefits of participating in the ASMR Mentoring Program.

"What made you seek out a mentor using the ASMR Mentoring Program?"

After attending the 2008 ASMR Professional Development Day in Adelaide I realised that I needed a mentor to help me with the next phase of my career. Being a mid-career researcher is difficult as you are no longer eligible for opportunities afforded to early career researchers, such as scholarships, travel awards and professional development activities. However, you are not yet competitive enough to apply for senior research positions. During the ASMR Professional Development Day one of the speakers stressed the importance of having a mentor and when I learnt about the ASMR Mentoring Program, I joined immediately.

Tina Bianco-Miotto — ASMR Mentoring Program

Agood mentor is arguably one of the most valuable career development assets. The ASMR recognises the importance of a streamlined and easily accessible mentoring

"What benefits have you gained from being mentored?"

Being mentored has ensured that I have set realistic short term and long term research goals. My mentor has also helped me to focus on the things that are important in becoming an independent researcher, such as strategies to help write successful grants and papers. My mentor is someone that I can easily and objectively discuss any issue with and has provided me with regular positive feedback and support. My mentor's objectivity has ensured that I focus on what I need to achieve my research development goals.

"Do you think having a mentor has benefited your research career?"

Having a mentor has definitely benefited my research career, helping me to balance my family and personal life with the work required to develop a successful research career. Having a mentor has led to an increase in my research output, making me more competitive for grant and fellowship funding. My mentor has helped develop my research and professional networks and has allowed me to learn from an experienced and objective researcher.

"What advice do you have for researchers thinking of joining the ASMR Mentoring Program?"

What are you waiting for?! The service is free for ASMR members so go ahead and take advantage of this great service! **www.asmr.org.au/Mentor.html**

Looking for a career development mentor?

Are you a mid-career researcher without a career mentor?

The ASMR invites members who are 5–12 years postdoctoral to participate in the ASMR Mentoring Program. Applications are accepted all year round and the program is free to ASMR members.

For additional information and application forms please visit **www.asmr.org.au/ mentor.html**.

Dr Juliet Taylor and Dr Roger Yazbek, Professional Development Convenors



An old enemy, a new battle plan malaria

he origin of the name malaria, meaning 'bad air', stems from the Roman period in Italy when the disease was first associated with the stench of swamps. Indeed, malaria is one of humankind's oldest enemies. The Greek physician Hippocrates of Cos described the symptoms while travelling through Egypt. His description is so accurate that medical doctors still used it to diagnose malaria until the last century. Malaria has been a scourge of humanity since antiquity and it remains so today. It has been over 100 years since the discovery that 'the aque'now commonly known as malaria—is caused by infection with the protozoan Plasmodia, which is transmitted between humans by the bite of the female mosquito Anopheles. There are various Plasmodia species but the most severe form of the disease is caused by Plasmodium falciparum.

The World Health Organization estimates that malaria is endemic in more than 100 countries that puts 2.4 billion people—over 40% of the world's population - at risk. More than 300 million people develop clinical malaria and at least 1 million die each year. The geographical area affected by malaria has shrunk considerably, but control of the disease is difficult. There has been huge reductions in mortality and morbidity in areas such as South Asia, but malaria still remains the largest paediatric killer in many parts of sub-Saharan Africa, which bears the greatest global burden of disease. In addition, malaria puts an economic burden on those countries that are among the poorest in the world. WHO estimate that the disease slows Africa's economic growth by up to 1.3% each year by increasing costs for health care and preventing the improvement of living standards. Their report puts the short-term economic benefits of malaria control for African countries at between \$3 and \$12 billion each year.

There has been a strengthening of political will to combat malaria including the Roll Back Malaria Global Partnership and the Multilateral Initiative for Malaria of the WHO and initiatives of the Bill and Melinda Gates Foundation. Indeed Bill and Melinda Gates have made a major commitment that "Our long-term goal is to eradicate this deadly disease". This is a major challenge but an important call to all who are working to develop new treatments and controls against malaria. This has coincided with an improved ability to analyse the parasite as well as the availability of the genomes from a number of *Plasmodium spp*. including *P. falciparum*. Currently, there is a new vaccine (RTS,S) against *P*.



Professor Alan Cowman will deliver the ASMR 2010 Edwards Oration at the ASMR NSC in November

falciparum in Phase III human trials and a number of new drugs and combinations some in advanced stages of development. Genetically attenuated malaria parasites have been shown to protect against malaria in rodent models of the disease and *P. falciparum* strains have also been developed for testing in human clinical trials. These advances provide hope that the tools for the control of malaria will be available in the not too far distant future.

Malaria has been a companion of humans throughout history. The numerous attempts to control it have been defeated by a combination of the ability of the parasite and the mosquito to adapt to the challenges set by humans. But as the light microscope increased our understanding of the aetiology of malaria at the turn of the 19th century our ability to dissect and understand the malaria parasite might help us to expand our armamentarium against this ancient foe. It is hoped that the increased commitment to the control of malaria, together with the full exploitation of the scientific advances associated with our increased knowledge of *P. falciparum* and how it causes disease, will bring this old enemy under control.

Prof. Alan F. Cowman The Walter and Eliza Hall Institute of Medical Research

Conferences

First International Conference on Translational Medicine November 1–4 2010 John Curtin School of Medical Research Australian National University, Canberra http://jcsmr.anu.edu.au/con ferences/nov/speakers.php

Translational Genomics Symposium November 30 2010 Garvan Institute of Medical Research, Sydney http://www.garvan.org.au/s ymposium/transgenomics



Dan Johnstone — Winner of the 2009 ASMR Research Award (Domestic)

n 2010 I took up my ASMR Research Award in the laboratory of Prof. Debbie Trinder at the University of Western Australia (UWA). Prof. Trinder is a world leader in the study of liver iron metabolism and the iron overload disorder haemochromatosis, complementing my own research on the effects of iron overload disorders on the central nervous system. My time with Professor. Trinder's group provided a fantastic opportunity to extend my knowledge of the techniques used in this area and form new collaborations. During my visit I collected brain and retinal tissue from different iron overload mouse models and conducted preliminary investigations of iron-related changes in these tissues. I was also given the opportunity to present my research as an invited speaker at the UWA School of Medicine and Pharmacology seminar series. In addition to the experiments conducted in Prof. Trinder's lab I also spent some time working in the lab of Dr Mike House, from the Department of Physics at UWA. This involved the preparation of brain and retina samples for analysis by inductively coupled plasma atomic emission spectroscopy (ICP-AES), a technique which provides extremely sensitive measurement of total iron levels as well as information on levels of other metals.

As a result of my research visit, I have made some novel findings, including obtaining strong evidence

for increased brain iron levels in a recently-developed mouse model of severe iron overload. This is the first time that brain iron accumulation has been demonstrated in a model of genetic haemochromatosis. In addition, this particular model appears to more accurately reproduce the characteristic features of advanced human haemochromatosis than those used previously. It is therefore likely to prove a very useful model for future studies into the effects of excess iron on the central nervous system.

I firmly believe that my ASMR Research Award has helped me to strengthen and solidify collaborations with various UWA researchers, which I hope will continue in the future, including through joint grant applications. The visit to WA has also allowed my research group to make contact with ophthalmologists at the Lions Eye Institute about possible collaborative studies into the effects of iron excess on the retina.

I offer my deepest thanks to ASMR for choosing to support my research by funding this trip, as well as all the wonderful people at UWA who helped make my visit such a rewarding experience.

Dan Johnstone, Priority Research Centre for Bioinformatics, Biomarker Discovery and Informationbased Medicine, University of Newcastle



Dan Johnstone (right) in the lab of Dr Mike House (left) at the University of Western Australia

Call for proposals — 2012 National Scientific Conference Theme

ASMR members are invited to submit suggestions for a potential theme for the 2012 ASMR National Scientific Conference (NSC). Please e-mail suggestions to

asmr@alwaysonline.net.au with *"Suggestion - NSC"* in the email subject.



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