

Landmark study shows blood pressure drugs cut death rate in type 2 diabetes

The largest ever study of treatments for type 2 diabetes has shown that a combination of two blood pressure lowering drugs reduced the risk of death, as well as the risks of heart and kidney disease. The ADVANCE (Action in Diabetes and Vascular Disease) Study was led by researchers at The George Institute for International Health who presented the results at the recent European Congress of Cardiology in Vienna.

"These results represent an important step forward in the care of people with type 2 diabetes worldwide. This treatment reduced the likelihood of dying from the complications of diabetes by almost one-fifth, and could potentially save several millions of lives over the next decade if the treatment was widely implemented," said study leader, Professor Stephen MacMahon, Principal Director of The George Institute.

More than 250 million people worldwide have type 2 diabetes, and most will eventually die or be disabled by the complications. The most common cause of death is heart disease, but kidney disease also affects a large proportion. In 2006, the United Nations called for increased international action to combat the global epidemic of diabetes.

More than 11,000 patients with type 2 diabetes in 20 countries world wide participated in the 4.3 year project. Half received daily treatment with a single tablet containing a fixed combination of two blood pressure lowering drugs (perindopril plus indapamide) and half received a matching inactive placebo.

"Importantly, the ADVANCE results showed that patients with type 2 diabetes benefited



"These results represent an important step forward in the care of people with type 2 diabetes worldwide" - Stephen MacMahon

from this blood pressure lowering treatment irrespective of whether or not their blood pressure was elevated to begin with," said study investigator, Dr Bruce Neal.

"The participants in ADVANCE were already receiving most of the usual treatments provided to patients with diabetes, including other drugs to lower blood pressure," explained ADVANCE study director Dr Anushka Patel. "However, the addition of the fixed combination of perindopril and indapamide reduced the risk of death from any cause by 14% and the risk of death from cardiovascular disease by 18%. Over five years, this treatment would prevent one death among every 80 patients treated."

"The results clearly demonstrate that we have the tools to blunt the impact of the global diabetes epidemic facing rich and poor countries alike. But concerted action is urgently required to ensure that patients with diabetes are identified and provided with treatments proven to improve important

outcomes like survival," added Professor John Chalmers, the author of international guidelines for the treatment of high blood pressure and chairman of the study management group.

The ADVANCE Study was coordinated by The George Institute with support from Servier Laboratories, and the National Health and Medical Research Council of Australia. The study was managed in Australia by the University of Melbourne.

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A message from Principal Director Professor Stephen MacMahon

It gives me great pleasure to report the results of the ADVANCE (Action in Diabetes and Vascular Disease) Study in this, issue seven, of *George Research*. As revealed in our lead story, ADVANCE is the largest ever study of the prevention of complications of type 2 diabetes and its results will have important consequences for the care of millions of patients worldwide. It has been a major component of The George's research activities since 2000.

With support from over 200 investigators in 20 countries, The George Institute recruited more than 11,000 participants to ADVANCE, in an effort to obtain reliable evidence about the effects of two promising approaches to the prevention of diabetic complications. One of these approaches involves intensive blood pressure lowering, and the results from that part of ADVANCE were released in early September in Vienna at the European Congress of Cardiology and published simultaneously in *The Lancet*. The other approach involves intensive blood glucose lowering and results of that part of the study will be reported when the study comes to a final conclusion at the end of 2007.

The success of ADVANCE has been a team effort, and I would like to take this opportunity to thank our committed collaborators, staff, supporters and participants, all of whom

have made this contribution to medical science possible. I would also like to acknowledge the essential support provided by Servier and the National Health & Medical Research Council of Australia. Special mention should also be made of the tireless contributions of study chairman, Professor John Chalmers, and lead investigators Dr Anushka Patel and Associate Professor Bruce Neal.

I would also like to take this opportunity to introduce three new members of The George Institute Board of Directors: **Joanna Capon**, **Jason Yat-sen Li** and **Elsa Atkin**.

Joanna Capon is an art historian and industrial archaeologist, who has worked as a curator, writer, cataloguer and lecturer. Her particular expertise and passion is Chinese history and art. She is widely recognised for her services to charitable institutions including The Children's Hospital at Westmead <http://www.chw.edu.au/>, for which she was awarded a Medal of the Order of Australia (OAM) in 2002. Joanna's understanding of Chinese culture and her interest in health and medicine makes her a perfect addition to our Board.

Jason Yat-sen Li is an international lawyer, political lobbyist and community leader. With a background in human rights law, Jason has spent time working in the commercial sector in Australia and in China where he is currently based. Jason takes a keen interest in the

interplay between corporate, political and community sectors, and undertook studies in this arena while in the USA on an Eisenhower Fellowship. His extensive understanding of all three areas, and their interactions, will be invaluable to the Institute, along with his expertise in Australia-China business relations.

Elsa Atkin is a cultural management consultant, who brings a wealth of knowledge to the board, along with considerable expertise gained during her twelve years as Executive Director of the National Trust of Australia. Having held various senior positions in charitable organisations, educational institutions and media outlets, Elsa provides the board of directors with an impressive range of leadership and fundraising skills in the not-for-profit sector.

On behalf of Institute Chairman, Dr John Yu AC, and Institute Co-Principal Director, Professor Robyn Norton, I am delighted to welcome Joanna, Jason and Elsa to the board and to The George Institute.

Stephen MacMahon
Principal Director
The George Institute for International Health

Collaborations at the forefront of Indian Minister of Health visit to Sydney



Left to right: Prof Mark Stevenson, Senior Director, Research and Development, The George Institute; Ms Sujatha Rao, Director General, National AIDS Control Organisation; Prof Glenn Salkeld, Head, School of Public Health, The University of Sydney; Prof N.K. Ganguly, Director General, Indian Council of Medical Research; Dr Anbumani Ramadoss, Hon Minister of Health & Family Welfare, Government of India; Mr Sujan Chinoy, Consul General, Consulate General of India, Sydney; Dr Rakhi Dandona, Head, Population Health Research, The George Institute, India; Prof Lalit Dandona, Chair, International Public Health, School of Public Health, The University of Sydney and Senior Director, The George Institute, India

The George Institute and the School of Public Health and Faculty of Medicine at the University of Sydney recently co-hosted a visit from India's Minister of Health and Family Welfare, Dr Anbumani Ramadoss. The Minister was accompanied by Professor N.K. Ganguly and Ms Sujatha Rao, the Director General of the Indian Council of Medical Research (ICMR) and National AIDS Control Organisation, respectively, and Mr Sujan Chinoy, Consul General, Consulate General of India in Sydney.

The distinguished guests met with senior staff from The George Institute, the School of Public Health and the Faculty of Medicine to discuss potential collaborations and capacity building opportunities across a range of areas in health.



The meeting was an opportunity for Dr Ramadoss to speak about current health initiatives and priorities in India

The meeting provided an opportunity for Dr Ramadoss to brief the researchers and academics present on current health initiatives and priorities in India, including the National Rural Health Mission.

Professor Ganguly described the range of research and teaching activities being undertaken by ICMR institutions in India and Ms Rao gave an overview of HIV/AIDS-related initiatives.

The Minister's visit comes as The George Institute commences planning for the launch of The George Institute, India, in Hyderabad later in the year. The new office in India will help strengthen the Institute's efforts to tackle the rise of chronic disease and injury in the region.

FOCUS ON

RENAL DIVISION

The Kanyini Vascular Collaboration

Until now, little Indigenous health research has exclusively focused on the barriers to implementing best-practice management of chronic diseases. In addition, there has been limited collaboration with Aboriginal controlled health services with the aim of finding meaningful solutions to chronic disease among Aboriginal and Torres Strait Islander people. The Kanyini Vascular Collaboration recognises that an in-depth, multi-disciplinary research effort is essential to achieving its goal of narrowing the gulf between evidence and actual practice in the prevention and management of chronic vascular disease among Aboriginal and Torres Strait Islander people.

This exciting collaboration between Indigenous and non-Indigenous health services, clinical researchers, policy-makers, health economists, clinicians, and communities will receive funding from the NHMRC over the next five years and is now in the early stages of development.

What we hope to achieve

By working in close partnership with Aboriginal communities and a diverse range of health professionals, the Kanyini collaboration seeks to achieve four primary objectives in the areas of research, innovation, capacity building and policy reform.

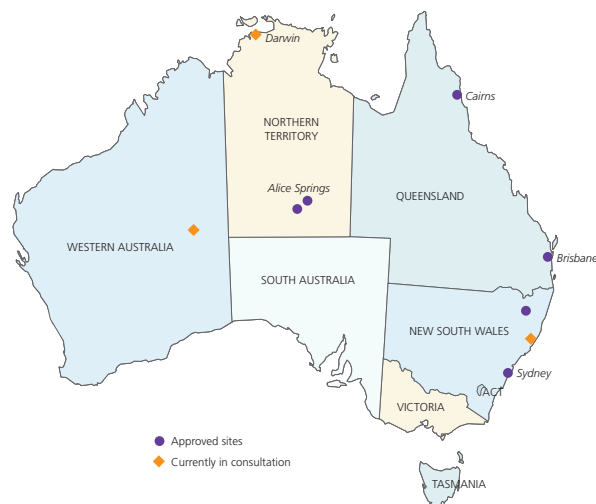
1. Identify systemic barriers to health care for Aboriginal people with chronic vascular disease, kidney disease and diabetes, from the perspective of the patient, their community and health care providers.
2. Develop, implement and evaluate health systems, services and interventions that will reduce the burden of chronic vascular diseases amongst Aboriginal and Torres Strait Islander people.
3. Respond to the needs and priorities of individual communities by building capacity within community-controlled and mainstream health services to improve the



Staff at the Inala Indigenous Health Service, Brisbane (above) and WuChopperen Health Service, Cairns (left)



KANYINI VASCULAR COLLABORATION STUDY SITES



KANYINI

Kan-ye-nee, verb.

Kanyini is an important term used by a number of language groups in central Australia. It can be translated as "to have, to hold and to care". Kanyini represents one of the four fundamental principles of Aboriginal life in Central Australia which also include Tjukurpa (law, dreaming); Walytja (family) and Ngurra (land, country).

In essence, Kanyini is the tenant of caring for others. Within Aboriginal culture, the nurturing and protecting of family, country and the law is viewed as both an obligation and a fundamental right. Kanyini enables reciprocal relationships to be developed between Aboriginal people and the world around them and is pivotal for the continuity and reinvigoration of Aboriginal life.



management and care of those suffering from chronic disease.

4. Establish a coherent policy agenda and distribution strategy by utilising the expertise of research team members who have significant roles at the state and national levels in the development of chronic disease policy. These individuals are well placed to negotiate the processes of health system reform within primary care, hospital and population health services.

The studies

The Kanyini Vascular Collaboration is made up of five inter-related studies, including:

1. An audit of chronic disease prevention and management practices in the community-controlled primary care sector.
2. A qualitative evaluation of knowledge, attitudes, practices and the perceived needs of patients, communities, health care providers and policy makers with respect to the prevention and management of chronic disease.
3. A documentary and communication study tracking the real life journeys of Aboriginal people with chronic illness as they negotiate their health care needs.

4. A randomised controlled trial of a community-based strategy to maximise evidence-based, long-term therapies among individuals at risk of developing cardiovascular disease.
5. A trial of multi-disciplinary vascular clinic models within community-controlled health services.

Making a difference

Exploring the complexities of chronic vascular disease and related health services within Aboriginal communities will serve as a model for engaging in similar research within other disadvantaged groups such as low-income earners and those from non-English speaking backgrounds, as well as the broader population.

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DR DAVID PEIRIS

MBBS MPH FRACGP FARGP

Senior Research Fellow, Indigenous Health Services

Earlier in the year, this doctor with a passion for Indigenous health journeyed across the pond from New Zealand to join The George Institute as a Senior Research Fellow.

Having worked with Dr Alan Cass, Director of the Renal Division, several years earlier in the Northern Territory, David followed his intuition and pursued the opportunity to become an integral part of Alan's team at The George, "I thought he did good stuff and would be a nice person to work with, and so far, so good," he quips.

David now contributes to the scientific aspects of The Kanyini Vascular Collaboration (see left), cultivating partnerships with primary health care service providers and liaising with the program's chief investigators and other external stakeholders. He fervently believes in the importance of Indigenous community controlled health organisations taking a primary role in the delivery of good health care and feels "it is imperative that the Kanyini Vascular Collaboration make a meaningful contribution to improving health outcomes for Aboriginal and Torres Strait Islander people. The challenges are great but the potential rewards are even greater."

After graduating from the University of Sydney with a Bachelor of Medicine/Surgery and a Masters degree in International Public Health, David applied his wide range of skills in general practice around Australia, particularly in isolated and rural areas. One of his career highlights has been a two year appointment as the sole general practitioner at Galiwin'ku, a remote Aboriginal community in North East Arnhem land.

In addition to obtaining his Fellowship with the Royal Australian College of General Practitioners and a Fellowship in Advanced Rural General Practice, David has grasped the intricacies of several languages, including Spanish, Yonlgu Matha and Te Reo Maori. And how does the good doctor unwind? "I like running. My goal is to keep Nick Glozier (George Institute Associate Principal Director) within eyesight at the City to Surf (I have very good eyes!)"

LEGS up and running

The 'Long-term Evaluation of Glucosamine Sulphate (LEGS) Study' is now up and running following support from the Central Sydney Division of General Practitioners in assisting with patient recruitment. This clinical trial will monitor patients with osteoarthritis of the knee to determine the benefits of glucosamine while assessing rates of cartilage loss.

The first 940 patients will now undergo X-ray screening of the symptomatic knee at the RPAH QE II radiology department with follow-up X-rays scheduled at one and two years into the trial. A select group of 400 patients will also have MRI scans of the study knee at baseline and one year into the trial.

Following their initial X-ray, patients will be randomly allocated active or placebo glucosamine sulphate and/or chondroitin. Patients will regularly document their knee function, medication and use of health care services, and the LEGS research team will conduct bi-monthly checks on their progress.

The significance of LEGS is substantial when considering the prevalence of osteoarthritis in our aging population. If regular intake of glucosamine sulphate is shown to ease joint pain, reduce the consumption of NSAIDs or slow the progression of joint destruction, the widespread use of this product would effectively lessen the disability and morbidity burden of osteoarthritis on our society. However, should this dietary supplement prove to be ineffective, then this research will result in cost-savings for older Australians and encourage patients, clinicians and health care resources to focus on strategies such as regular exercise and weight loss which have already been proven effective in managing this disease.



THE JOHN CHALMERS AWARD

The annual John Chalmers Award recognises outstanding research undertaken by doctoral students and post-doctoral fellows of The George Institute. Each year, doctoral students and post-doctoral fellows submit papers for review by the selection committee who award a cash prize for the best original paper published in a scientific journal the previous calendar year. The winning submissions for 2007 exemplify The George Institute's global health focus, examining motorcycle helmet use in Vietnam and chronic disease in rural India.

Doctoral Student Winner



Dr Hung Dang Viet for his paper entitled 'Prevalence of helmet use among motorcycle riders in Vietnam', published in *Injury Prevention*.

Hung undertook a population based survey to investigate the rate of helmet use among motorcycle drivers in the Hai Duong province of Vietnam, and compared the rates of helmet use by road types. Hung

concluded that the rate of helmet use in Vietnam increased in areas where helmet use has been made compulsory, and that further legislation and enforcement is required if wearing a helmet is to become commonplace.

Doctoral Student Winner



Dr Rohina Joshi for her paper entitled 'Chronic diseases now a leading cause of death in rural India—mortality data from the Andhra Pradesh Rural Health Initiative', published in the *International Journal of Epidemiology*.

With India undergoing rapid epidemiological transition as a consequence of economic and social change, Rohina sought to analyse the pattern of mortality in an area where up-to-date, precise, and reliable statistics are few. Her paper concluded that non-communicable and chronic diseases are the leading causes of death in this part of rural India, which provides new insight into the rapid progression of the epidemiological transition in this part of the country.

Large intensive care study reveals vital recommendations for treatment of brain injury patients

A landmark Australian and New Zealand intensive care study has provided vital information for the treatment of patients with brain injuries. The results of the SAFE-TBI Study, published in the *New England Journal of Medicine*, confirm that the choice of resuscitation fluids affects the chances of patients with brain injury surviving.

Study leader Professor John Myburgh, from the Australian and New Zealand Intensive Care Society Clinical Trials Group (ANZICS CTG) and The George Institute explained that, "Patients with brain injury require resuscitation fluids to promptly restore blood flow to the brain following trauma. Until now, clinicians were uncertain which fluid to use in this situation and there was wide variation in the types of fluids used in these patients. Our study confirmed that patients resuscitated with albumin-based fluids immediately following brain injury, had a higher death rate than those who received saline."

In 2004, researchers from the ANZICS CTG, The George Institute and the Australian Red Cross Blood Service published the largest study ever performed in intensive care in the *New England Journal of Medicine*. The study, called the SAFE Study, was prompted by earlier reports from the United Kingdom, which suggested that the administration of albumin-based fluids used for the resuscitation of critically ill patients was associated with a higher rate of death. The SAFE Study, which studied almost 7000 patients in Australia and New Zealand, concluded that the death rate was the same when patients were given either albumin-based or saline-based fluids. However, a higher death rate was seen in those patients who had brain injuries due to trauma, caused by road traffic crashes or falls, and who received albumin-based fluids.

Given the importance of these results, the SAFE Study researchers conducted a detailed analysis of the patients with brain injuries (the SAFE-TBI Study) that included determining the death rate

two years after the original injury as well as an assessment of the level of disability in those who survived.

"Our study provides compelling new data to guide clinicians in the choice of resuscitation fluids in patients with traumatic brain injury. These results will have a major impact on clinical practice guidelines for resuscitation of these patients," Professor Myburgh added.

The SAFE-TBI Study also raises an important public health issue for millions of patients with brain injuries worldwide. "Given that traumatic brain injury results in considerable death and disability in all societies, but particularly in the developing world where trauma rates are increasing, it is important for doctors to know that a patient's chances of survival can be substantially improved by the administration of a readily available and inexpensive fluid such as saline," Professor Myburgh said.

The SAFE TBI study was supported by the Victorian Trauma Foundation.

Recent Board Appointments

Three new members have recently joined the Institute's Board of Directors - each bringing with them extensive experience and a unique set of interests.

Elsa Atkin



Company director, cultural management consultant and change agent, Elsa Atkin has a wide range of experience in business management, public advocacy and cultural and social development.

Career Highlights

- 12 years as the Executive Director of the National Trust of Australia
- Deputy director of the Evatt Foundation from 1990-1993
- 10 years in management at the Australian Broadcasting Corporation (ABC)
- Currently a board member of Symphony Australia and the Sydney Community Foundation.

Jason Yat-sen Li



International lawyer, political lobbyist and community leader, Jason Yat-sen Li runs his own China market-entry and corporate advisory firm and is fluent

in five languages.

Career Highlights

- 2003-2006, Head of China Strategy and then General Manager, Sales and Marketing – China for the Insurance Australia Group
- 2006, led a major, award-winning campaign to improve road safety in China
- 2002, awarded the Eisenhower Fellowship
- Deputy Chair of the Australian Republican Movement from 2002 to 2004
- Currently a board member of the Sydney Institute and National Centre for Volunteering, also Governor of the Smith Family.

Joanna Capon



Art historian, industrial archaeologist, curator, writer, cataloguer and lecturer, Joanna Capon has a particular passion for Chinese history and art.

Career Highlights

- Awarded a Medal of the Order of Australia (OAM) in 2002 for her services to The Children's Hospital at Westmead where she has been a board member for four years, honorary art-curator since 1995 and is also a member of the Advisory Council and Governance Committee
- Currently Chair of the Board of the Australian Centre for Photography, a member of the Editorial Advisory Board of *Art and Australia* and a Board member of Museums and Galleries NSW.

Limited places left: An introduction to the application of cost effectiveness analysis in health

Across the globe, health sector organisations, both public and private, are increasingly being required to take economic considerations into account in their decision making. This course provides an introduction to the use of economic analysis in evaluating health programs. The course aims to provide participants with an understanding of priority setting and the application of cost-effectiveness. It entails a combination of short lectures, case studies and practical class exercises. It is targeted at policy makers, clinicians, researchers, managers and others working in the health sector who may be dealing with these economic issues. No previous knowledge of health economics is required.

The course will involve faculty from the School of Public Health, the University of Sydney (Philip Clarke, Alison Hayes, Kirsten Howard, Glenn Salkeld & Deborah Schofield), The George Institute for International Health (Stephen Jan) and the National Drug and Alcohol Research Centre, The University of New South Wales (Marian Shanahan).

Course details

Friday 26 October 2007
9.30 am to 5.00 pm
The Holme & Sutherland Rooms
Level 4 (one level above ground level)
Holme Building, Science Rd
The University of Sydney

The fee is \$495 for the commercial sector, \$295 for the public sector and \$200 for full-time students (limited places). Lunch, morning and afternoon teas will be provided. The workshop will be restricted to 35 places. The closing date for applications is 8 October 2007.

For further information please contact Stephen Jan:
sjan@george.org.au

Cluster Randomised Trials 2 Day Workshop

Cluster randomised trials (CRT) are studies where groups of individuals, rather than individuals themselves, are randomised to different treatment or intervention groups. This type of trial has become particularly popular in the evaluation of non-therapeutic interventions such as educational guidelines, health promotion campaigns and lifestyle modifications.

Statisticians, clinicians, researchers and students who attend this course will discuss the benefits and considerations in running CRT including unit size and the design and analysis stages. The workshop will be led by International experts, Professor Allan Donner and Associate Professor Judy Simpson.

Topics include:

- Sample size or power calculation
- Practical and ethical aspects of CRT
- Analysis of CRT for different types of outcomes
- Insight on new perspectives and future research

This workshop is hosted by **The George Institute for International Health** and **The School of Public Health** at **The University of Sydney**.

Course details:

6 and 7 December 2007

The University of Sydney

Fee information and a registration form will soon be available online at www.thegeorgeinstitute.org.



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