The George expands for better health in India

In a move that will significantly develop research and capacity building in support of India’s health priorities, The George Institute for International Health opened The George Institute, India at a ceremony held on 28 November 2007 in Hyderabad, India.

The George Institute, India will conduct a landmark group of studies that will provide answers on how to improve health and manage major diseases in India in a sustainable manner through a more effective health system. The occasion marks a major expansion of Australian health expertise into the Asia-Pacific region following the recent opening of The George Institute, China in May of this year.

More than 250 million people worldwide have type 2 diabetes, and have an increased risk of death due to cardiovascular disease. Around 16 million cardiovascular deaths occur each year, and the majority of these take place in developing countries such as India, where rates of heart attack and stroke have ballooned in the last few decades. The new Institute will address these and other health challenges in India such as obesity, HIV/AIDS and injury.

Announcing the launch, Professor Lalit Dandona, Senior Director of The George Institute, India said, “The George Institute is rich with expertise in population health. We are well equipped to work towards systematic long-term health improvements of the Indian population in collaboration with major Indian partners and the University of Sydney. We will undertake large-scale health research projects and help apply the findings to boost relevant health programs in India.”

The Honourable Union Health & Family Welfare Minister in India, Dr Anbumani Ramadoss, sent his good wishes to the new Institute, “Good health of the people of a nation is a necessary requirement for achieving sustainable growth and success of the country. A better health infrastructure is crucial for helping India reach its high-growth trajectory in all spheres. We are delighted to welcome The George Institute as a valuable ally towards our common goal of making India a healthier nation.”

A Memorandum of Understanding between the Indian Council of Medical Research (ICMR), The George Institute and the University of Sydney Faculty of Medicine was also signed on 28 November. “We are proud to be partnering with ICMR and the University of Sydney to further strengthen our commitment to India. We hope that, with this partnership with the Government of India through ICMR, and with subsequent partnerships with a range of stakeholders in India, we can contribute to radical improvements in the lives of Indians,” said Professor Dandona.

The three partners have expressed interest in developing broad ranging collaborations in health/medical research and teaching and its application to improve population health and health systems in India.
It gives me great pleasure to welcome you on this most auspicious occasion, the formal opening of The George Institute, India. Tonight represents our very concrete commitment to the collaboration and partnership between those of us in India and Australia who are determined to lessen the ravages of poor health, injuries and chronic illnesses in the world especially in our part of the world.

The George Institute for International Health is a young organisation, with our activities commencing in 1999 in Sydney, but in those first nine years we have established collaborative projects in 53 countries in the world, and now have over 200 staff members. It is a matter of pride that in 2006, 51 projects were carried out principally in Australia, and over 50 projects were underway in 12 countries in Asia, including India. That is an achievement that speaks for itself.

Like Australia, India has special challenges related to the provision of appropriate services to rural areas and it is fitting that we should be working together in the Andhra Pradesh Rural Health Initiative.

Your large urban communities face similar resource inequalities as we do in Australia. There is a growing incidence of chronic illnesses yet we seem ineffective in getting our society to address the lifestyle that contributes to this growing problem. We need more research on cause, effects and then cures. Education is the linchpin to any advancement and again should be a fruitful area of potential co-operation.

Hyderabad is the second overseas base for The George Institute, the first being in Beijing and a third is currently being planned for London. Large-scale academic research collaboration is vital and our countries and major health alliances are natural partners.

I venture to suggest that following the recent general election in Australia, we as a nation will develop even closer links with our friends and neighbours to our north. I hope we can work to ensure that The George Institute, the University of Sydney and the Indian Council for Medical Research are part of that future.

We were very pleased to welcome the Minister and Professor Ganguly from the Indian Council of Medical Research to Australia earlier in the year. We are honoured that both the Minister and Professor Ganguly have shown such great support of the launch of our Indian venture. Thank you.
Establishing themselves as a key player in the global fight against major diseases, The George Institute, India recently commenced a project in India, in collaboration with the University of Queensland in Australia and Washington, Harvard and Johns Hopkins Universities in the United States, which has received funding from The Bill and Melinda Gates Foundation to enable accurate measurement of health status in developing countries.

The project, called the Population Health Metrics Research Consortium Project, will develop tools to improve measurement of mortality and causes of death, which are expected to help policymakers address persistent inequities in health in low and middle-income regions.

Institute investigators will be working in the Andhra Pradesh state in India, while other collaborators will be doing similar studies in northern India, the Philippines and Tanzania.

Lead researchers of the project at The George Institute, India, Professor Lalit Dandona and Dr Rakhi Dandona bring a wealth of research experience to the task. Head of Population Health Research, India, Dr Rakhi Dandona says, “This project is a collaboration between highly regarded scientific teams from around the world and we are thrilled to be a part of the team working on this vital project. It pursues a creative research approach, blending epidemiology, biomedical research, and population health assessment.”

The Gates funding of the project is part of its Grand Challenges in Global Health initiative, aiming to produce new measurement tools that are science-based, standardised and widely applicable across different resource-poor settings. The Institute will be working on Grand Challenge #13 - Reliable methods of estimating population health status, which are central for planning health improvements in any population. Such methods are currently deficient in the less developed settings where health improvement planning is most needed.

The first project-wide meeting of the Indian and international collaborators was hosted by The George Institute, India in Hyderabad on 29-30 November 2007 to discuss the data collected so far and to plan analysis. Representatives of all collaborators also attended the opening ceremony of The George Institute, India on 28 November 2007.

Staff Profile

Dr Rakhi Dandona
PhD
Head, Population Health Research – India

The intricate machine that is the human eye was the starting point for the career of Dr Rakhi Dandona; her initial qualification was as an optometrist. Yet only a few years later she found her interests expanding to encompass wider public health issues in developing countries. This in turn led her to complete a PhD in public health at the University of Melbourne. Since then her research work has been extensive – including, but not limited to, studies of the eye.

“My career includes three major population-based epidemiological studies undertaken in India to comprehensively understand blindness and visual impairment, HIV/AIDS and road traffic injuries. The blindness study has brought international attention to the role of uncorrected refractive error as a cause of blindness and visual impairment; the HIV/AIDS study highlighted the importance of quality population-based data for reliably estimating the HIV burden in India; and the findings from the road traffic study are expected to contribute to addressing knowledge gaps about road traffic injuries in developing countries.”

Her interest in public health, and desire to keep learning, made working for The George Institute a natural step. “Having worked in India for over a decade, I was looking for an opportunity to be part of an academic institute working in international health that would also allow me to continue my research in India. The George Institute, India provides such an opportunity and also provides broader teaching and research opportunities.”

Her career plans involve taking her research to the next level. “I would like to now focus on successfully applying scientific evidence for disease conditions to interventions that can benefit population health in a substantial way. When I’m not working, I like to paint and dance. I also like to travel and get to know different cultures.”
World’s #1 killer set to affect 500 million people in developing countries

High blood pressure is the leading cause of death across the world, causing more than seven million deaths each year. A new report shows that blood pressure related diseases, such as coronary heart disease and stroke, are continuing to cause potentially preventable death and disability, with a particularly large burden in developing countries such as India and China.

These diseases are taking a massive social and economic toll on low-income countries and crippling already fragile health systems. In 2005 the World Health Organization recognised blood pressure-related diseases as a major health concern and serious threat to social and economic development. With massive populations and limited resources, developing countries are struggling to manage the rise in affected patients.

Author of the report, Dr Vlado Perkovic at The George Institute says, “Scores of people in these regions are unaware that they have high blood pressure. What is needed are new approaches to the identification and treatment of individuals at high risk of blood pressure-related diseases, utilising low-cost but highly effective therapies that are already widely available. Health care providers must be trained and encouraged to provide screening, risk assessment and monitoring. The emphasis then moves to prevention rather than treatment, which is much more cost-effective for most nations.”

By 2025, more than 1.5 billion adults across the world are expected to be affected by elevated blood pressure. In high-income regions, the numbers of individuals with high blood pressure are predicted to grow by 70 million, compared to a rise of 500 million in developing countries. Fortunately, blood pressure-lowering drugs have played an important role in reducing the prevalence of blood pressure-related diseases in most developed countries. However, this has not been the case in low-income countries, and as the prevalence of elevated blood pressure continues to rise, these countries face a huge looming burden of disease.

“While safe and effective antihypertensive treatment could be effectively provided in many developing countries, in the form of a cheap generic blood pressure-lowering drug, the reality is that most people who need it are not receiving any treatments at all. Many lower income countries face a double burden of communicable and non-communicable disease, yet allocate limited resources to deal with the rise in these conditions,” added Dr Perkovic.

Staff Profile

DR SMITA WAGHRAY GHEYEE
MBBS
Head, Clinical Research – India

“I believe every summit grows as you reach it. I believe in working every day to complete today’s tasks and going the extra mile before sunset.” This is the philosophy that drives Smita Gheyee in her work as Head of Clinical Research, India.

Smita always knew she wanted to work in medical research. “I began my career as a senior research fellow with the Indian Council of Medical Research. Then, as a physician, I made my way through the ranks, working extensively on cardiovascular disease, oncology and nephrology. I went on to work for a commercial contract research organisation, playing a significant role in laying down quality and operational systems to satisfy pharma and FDA audits. I also worked with a biotechnology product manufacturer, which gave me insight into the sponsor’s perspective on clinical research.”

Her path finally led to her role with The George Institute. “I identified with the values of The George Institute and visualised a tremendous potential for growth.” Her work now focuses on the effective management of clinical research in India. “I am currently working on setting up the ALTITUDE, the POLYPILL and the SHIFT studies”, says Smita. “I am also doing some spade work for SAVE and INTERACT and a potentially large phase 3 study looking at long-term outcomes. I look forward to achieving my targeted patient recruitment well within the proposed timelines and, if required, taking on additional goals for India. In the year ahead I look forward to expanding Indian operations to other Asian and Asia-Pacific countries.”

In a country, and a world, facing so many medical challenges, Smita knows there is still plenty of work to be done. That’s why she continues to go that “extra mile before sunset”.

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Myth: We lose more salt during the hot weather and therefore need to eat more.

According to Dr Bruce Neal, Chair of the Australian Division of World Action on Salt and Health (AWASH), which launched the Drop the Salt! Campaign in May this year, “We only lose a small amount of salt through sweating even during the hottest days in summer, so there is no need to eat more salt. However, I do recommend that you drink plenty of water to keep your body hydrated”, he says.

The majority of people typically eat a lot more salt than they need – about nine grams per day when the recommended National Heart Foundation standards say people should aim to eat less than six grams (equivalent to around a teaspoon).

Dr Neal, who is also Senior Director at The George Institute for International Health explains, “When you sweat, your body regulates the amount of salt that is lost. The body has a remarkable ability to maintain sodium and water balance in different conditions. If salt is excreted in sweat this means that it is excess to functional requirements and it does not need to be replaced.

As for those posh salts such as sea salt, they all contain sodium and this can be harmful to your health. Dr Neal explains, “There is strong evidence that the sodium in salt raises blood pressure which is not good for your health. Salt is made up of sodium and chloride and it is the sodium portion that contributes to high blood pressure. These are the health concerns that we are addressing with the Australian food industry and consumers in our Drop the Salt! Campaign.”

AWASH, The Australian Division of World Action on Salt and Health, is a growing network of individuals and organisations concerned with salt and its effects on health. The mission of AWASH is to improve the health of Australians by achieving a gradual population-wide reduction in dietary salt consumption that will reduce cardiovascular diseases and other salt-related health problems. Visit www.awash.org.au for more information and for a full list of our advisors and supporters.

**Cut out the salt during summer – you don’t need it**

Even when you crave a salty taste, Dr Neal says it is unlikely that you need more salt; “Actually your taste buds are used to a certain salt level so the more salt you eat, the more you want. If you reduce the amount of salt in your foods over time, your taste buds will adjust so that foods with less salt will seem tastier.”

Most of the salt we consume is hidden in processed foods such as cereals, breads and takeaway food. AWASH is working with the Australian food industry to reduce the salt put into these types of foods.
Focus on sleep apnea and cardiovascular events: SAVE Study

What is Obstructive Sleep Apnea?

Obstructive Sleep Apnea (OSA) is a common condition characterised by repeated episodes of obstruction (apnea) or narrowing (hypopnea) of the upper airway during sleep. Other symptoms include loud snoring and daytime sleepiness. It is estimated that 4-10% of middle-aged men and women suffer from OSA, defined as more than 15 obstructive events during each hour of sleep. Men are more likely than women to suffer from OSA and other risk factors, including aging and obesity. The condition leads to fatigue and poor concentration, and places people at increased risks of accidents. There is increasing evidence that OSA may also contribute to the development of cardiovascular related diseases such as high blood pressure, stroke, coronary artery disease, heart failure and sudden death. However, most cases of OSA go undetected, and therefore untreated.

How do you treat OSA?

Treatment using Continuous Positive Airway Pressure (CPAP) reduces symptoms and improves quality of life for OSA patients. Delivered through a mask worn by patients while they sleep, CPAP is generally well-tolerated and improves sleep and subsequently, their alertness during the day.

However, researchers at The George Institute’s Neurological and Mental Health Division in collaboration with The Adelaide Institute for Sleep Health believe there is enough evidence to suggest the use of CPAP can also improve cardiovascular risk factors to warrant further investigation. SAVE researcher, Dr Emma Heeley, feels OSA is an ideal focus considering its prevalence and the availability of cost-effective treatment. Dr Heeley acknowledges, “We could make a major advancement in health care, if it can be established that Obstructive Sleep Apnea is a significant cause of cardiovascular events, including premature death and disability.”

Researchers anticipate that screening for OSA could become part of routine clinical care in cardiovascular medicine, and integrated within future public health campaigns aimed at reducing cardiovascular morbidity and mortality.

OSA in the Chinese setting

Dr Heeley explains, “There is little community awareness of OSA in China compared to developed countries. Additionally, access to treatment is severely restricted by cost - CPAP is currently beyond the means of nearly all sufferers of OSA. Thus the vast majority of cases in China currently go undetected and untreated.”

Researchers at The George Institute in collaboration with Australian sleep and cardiovascular medicine experts have designed the SAVE (Sleep Apnea cardioVascular Endpoints) Study, with a focus on China. The study will be conducted in three separate phases.

The SAVE Study Status

1. The SAVE Validation Study has involved the recruitment of approximately 150 subjects at the Luwan District in Shanghai with the aim of establishing the frequency of OSA, and testing the usefulness of a simple home, overnight breathing testing device for the diagnosis of condition. The study involves comparing a simple test of nasal air flow and oxygen levels in the blood (oxymetry) against a more sophisticated diagnostic test for OSA, called polysomnography, which records various physiological variables such as brain electrical activity, breathing and heart rate while subjects are asleep. The aim is to determine whether the simple device would be useful to rapidly include subjects into the later phases of SAVE.

2. The SAVE I Study, is a randomised controlled trial of CPAP therapy against usual care in 600 people with co-existing high cardiovascular risk and moderate to severe OSA. Subjects will be recruited from several dozen sites in China, India and Australia with the aim of determining the effects of the treatment on blood pressure and other markers of cardiovascular disease. The study will also establish the feasibility and logistical issues in proceeding to the main phase of the study, SAVE II.

3. The SAVE II Trial, or the main study, will begin early 2009. The aim of this study is to determine the effectiveness of CPAP in reducing the incidence of cardiovascular disease, including strokes, heart attacks, heart failure and death in 5,000 subjects recruited from over 100 centres, primarily in the Asia-Pacific region.

Partners

Respironics Inc has provided substantial seed funding and equipment for SAVE I. ResMed Australia have also provided significant equipment for the study. Industry organisations and other interested parties who would like to become partners in SAVE are encouraged to contact the Principal Investigator of the study, Professor Doug McEvoy of the Adelaide Institute for Sleep Health at Flinders University on +61 (0)8 8275 1952; email doug.mcevoy@rgh.sa.gov.au or by writing to: The Adelaide Institute for Sleep Health Repatriation General Hospital Daws Road Daw Park South Australia 5041
Staff Profile

DR EMMA HELEY
BSc, PhD, MSc
Senior Research Fellow, Neurological and Mental Health Division; Conjoint Senior Lecturer, The University of Sydney

If anyone can claim to have medicine “in the genes”, it’s Emma Heeley. “I have always been interested in the medical field as my father is a general practitioner and my mother a nurse. As the perpetual ‘why’ child, medical research was the obvious path forward.”

Educated in England, Emma studied for her BSc and PhD at Southampton University and her Masters in Epidemiology at the London School of Hygiene and Tropical Medicine. She then worked for several years in the UK as an epidemiologist and a researcher using major health databases.

A year ago, Emma made the move to Australia to take up her position with The George Institute. “I was moving from London to Sydney and was fortunate to have the time to research all the possible options. I was attracted to The George Institute because it was an academic institution that was rapidly growing and developing. I am currently working on five projects – SAVE, INTERACT, SEDS, AusHEART and QUEST – doing everything from designing and managing the projects to analysing the results. AusHEART, a new GP-based cardiovascular risk survey, will begin early next year; so it’s a busy time ahead!”

Emma also maintains an interest in areas she explored in her doctorate, and sees these as part of her future plans. “Sleep apnea is of particular interest to me as I have a PhD in respiratory physiology, and I also have a strong interest in lipids. Ultimately I would like to lead a team of researchers to establish and quantify the most effective forms of treatment for vascular disease.”

Yet, for Emma, Aussie life is more than conducting clinical trials and analysing research. “I’ve just bought my first unit, so when I’m not decorating I like to be out on the water either sailing or trying to learn to surf.”

Spotlight on road injury research

Road traffic injuries are a growing public health problem, affecting millions of people worldwide each year. Globally nearly 1.2 million people die and between 20 million and 50 million people are injured or disabled as a result of road traffic injuries each year, with the majority of deaths occurring in the Western Pacific and South-East Asia.

By 2020, road traffic injuries are expected to become the sixth leading cause of death and the third leading cause of disability worldwide, with about 90% of this burden occurring in low and middle-income countries.

The Institute’s Injury Prevention program is responding to the growing problem of road injury with an extensive research program that includes projects focused on low and middle income countries.

Heavy Vehicle Safety

A new study supported by the Australian Research Council and various industry partners, aims to examine the associations between sleep, scheduling and shift work in heavy vehicle drivers, and risk of crash. The study is a large case-control study which will run in NSW, Queensland and Western Australia. The research team is currently establishing the study protocols and it is anticipated that study participants will be recruited from March 2008. Further studies examining heavy vehicle safety are being developed in both India and China.

Young Drivers

The main focus of our work in novice driver safety is the DRIVE Study, which is a large cohort study of over 20,000 young NSW drivers that commenced in February 2003. The study investigates potential determinants of motor vehicle-related crashes and injuries among young drivers aged 17-24 years. Analysis of study results, currently underway, will be greatly aided by the appointment in November 2007 of Dr Teresa Senserrick, an internationally renowned novice driver researcher. Dr Senserrick’s position as Senior Research Fellow on the DRIVE Study has been funded by NRMA Motoring and Services.

Driver Distraction

The Institute’s recent work on driver distraction has produced important and relevant findings for the community at large. Projects such as Driver Distraction and Road Crashes have shed light on the role of mobile phone use and passenger numbers in motor vehicle crashes.

Seatbelt Use

While seatbelt use is the norm in some countries, such as Australia, in others, including China, drivers and passengers are both far less likely to wear seatbelts, irrespective of availability and laws. The Institute has recently completed a major seatbelt intervention study in China which had a significant impact on seatbelt use and provided the government with the opportunity to build capacity in road safety and at the same time, provided information on the opportunity to target financial resources in order to reduce the burden of road traffic injury.

Motorcycle Safety

Motorcycle helmet use is the subject of several studies that the Institute has recently undertaken in Vietnam. These studies have helped develop an understanding of the barriers to helmet use and the findings will be used to develop key intervention strategies.
In November 2007 at the American Heart Association Sessions, The George Institute Principal Director, Professor Stephen MacMahon was invited to present the 2007 Paul Dudley White International Lecture to the American Heart Association in Orlando, Florida. During the widely attended lecture, Professor MacMahon focused on the disparity between the distribution of burden and the distribution of expenditure on cardiovascular health care.

Low and middle income countries suffer more than 80% of the global burden of cardiovascular disease, but sadly more than 80% of the global expenditure on cardiovascular health care occurs in high income countries.

Professor MacMahon explained the major impact of cardiovascular diseases on low and middle-income countries, in particular highlighting more than half of all patients are middle aged, directly effecting individuals and many families during their most economically productive years. As a result of this, cardiovascular disease is now an considerable cause of poverty in many regions.

However, most individuals in low and middle income countries who are at high risk of a fatal or disabling cardiovascular event receive no treatment whatsoever. Even aspirin is not routinely provided to patients who have suffered a myocardial infarction.

To address these disparities, Professor MacMahon called for a broad approach from the WHO, the World Bank, governments and pharma to promote an increase in healthcare workers and capacity, preventive programs of guidelines and education, and availability of reasonably priced generic medications.

The Paul Dudley White International Lecture is presented by a distinguished researcher in the health arena who has played a pivotal role in the advancement of cardiology throughout the world. The lecture is held in memory of Paul Dudley White who, aside from being a founder and one time President of the American Heart Association, was US President Eisenhower’s personal physician. Dr White guided Eisenhower’s recovery from a heart attack in 1955.

Professor MacMahon’s lecture can be accessed through the American Heart Association website www.americanheart.org.

Participants are currently being recruited for a clinical trial of an intranasal insulin spray to determine whether it protects against the onset of type 1 diabetes. The trial is being run by the Diabetes Vaccine Development Centre, and people are eligible to join the trial if they are between four and 30 years old, and have a close relative with type 1 diabetes.

Road injury expert Dr Rebecca Ivers, has been nominated for an NHMRC Achievement Award. Over 1.2 million people die each year on the road and many millions suffer injuries that impact their lives. Dr Ivers’ research is aimed at reducing this death and injury burden, in Australia and developing countries in the Asia-Pacific region.

Liz de Rome, a Research Scholar with the Institute’s Injury and Musculoskeletal Division, has been recognised with a Peter Vulcan Award for best research paper at the Australasian Road Safety Research Policing and Education Conference. The paper, entitled Motorcycle protective clothing: Are stars better than standards? was co-authored by Narelle Haworth, Paul Varnsvery and Peter Rowden and presented in October.