

GLOBAL HEALTH at the george

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DISEASES OF THE WORLD'S POOR DESPERATELY UNDERFUNDED

MANY OF THE DISEASES THAT AFFECT THE MOST DISADVANTAGED POPULATIONS ACROSS THE WORLD ARE CONDITIONS KNOWN COLLECTIVELY AS NEGLECTED DISEASES. INCLUDING CONDITIONS THAT CLAIM MILLIONS OF LIVES EACH YEAR – DENGUE, DIARRHOEAL DISEASES AND RHEUMATIC FEVER - THESE DISEASES HAVE RECEIVED RELATIVELY LITTLE FUNDING, ATTENTION AND PROFILE COMPARED TO MANY OF THE COMMON CHRONIC CONDITIONS THAT AFFECT HIGH INCOME COUNTRIES.

Over one billion people are living with one or more neglected disease and more than six million people die from these conditions each year. Much work needs to be done not only to ensure that effective healthcare reaches these patients, but that the money used to support research into products that treat and prevent these conditions is spent wisely.

A team of neglected disease experts at The George are conducting a five-year survey tracking investment on new products for neglected diseases. Led by Dr Mary Moran, a well-known commentator on medicines for neglected diseases, the team has released the second-year report from the on-going survey that will continue to help funders identify funding gaps and the best areas for investment.

The G-FINDER (Global Funding of Innovation for Neglected Diseases) survey found a total of US\$2.96 billion was invested into neglected disease R&D in 2008, a slight increase from the previous year due to including new survey participants in the second-year survey. However, Dr Moran is pleased to see India and other developing countries playing a stronger role in fighting these conditions.



INDIA PROVIDES SIGNIFICANT FUNDING

"India was included in the survey for the first time, and they have emerged as a serious government funder for neglected disease R&D. Collectively, Innovative Developing Countries Brazil, South Africa and India invested US\$76.6 million. Importantly, these investments were directed to diseases such as dengue and leprosy that have not traditionally been favoured by high-income country funders", Dr Moran said.

India is now the fifth largest public funder in the field, investing a total of US\$32.5 million in 2008. The forces behind this are government agencies committed to the cause - the Indian Council of Medical Research (ICMR), the India Department of Biotechnology, the Department of Science and Technology and the Council of Scientific and Industrial Research. Many wealthy governments provided little or no funding.

"The G-FINDER survey report has put India as the 5th largest public funder of neglected diseases, and ICMR provides

60% of the funds. Visceral leishmaniasis and leprosy are amongst the most neglected diseases, and we must further improve our funding for research to find new tools to combat them", said Dr V M Katoch, Secretary, Department of Health Research, and Director-General, Indian Council of Medical Research, New Delhi.

The team found that much of the global funding ground to a standstill in 2008, with funding cuts or freezes across the board including a US\$26.3 million decrease in funding from high-income countries. On the flip side, the Bill & Melinda Gates Foundation increased its funding (to US\$617m), who, alongside the US National Institutes of Health (US\$1.1billion) provided nearly 60% of global funding in 2008.

"In these tough economic times, every contribution to neglected disease R&D is absolutely critical", said Dr. Regina Rabinovich, Director, Infectious Disease Development at the Bill & Melinda Gates Foundation.

BIG THREE DISEASES CAPTURE LION'S SHARE

As revealed in the first report, just three diseases captured the lion's share of funding, together accounting for nearly three-quarters of global investment: HIV/AIDS (US\$1.2b, 39.4%), malaria (US\$541.7m, 18.3%) and tuberculosis (US\$445.9m, 15.1%). A worrying trend is developing where many of the biggest killers among the neglected diseases, such as leprosy, rheumatic fever and Buruli ulcer, which collectively received less than 0.4% of funding, are desperately underfunded.

"This is why it's vital to have this information. Our aim is to provide data as consistently and comprehensively as possible to help funders better understand where the gaps lie and how their investments fit into the global picture", Dr Moran added.

The Gates Foundation provided funding for five annual G-FINDER surveys. For more information on the G-FINDER survey, visit www.georgeinstitute.org or contact Dr Mary Moran on mmoran@george.org.au.

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Youth road crashes in China

See special insert from China's International Center for Chronic Disease Prevention.



A decade of DISCOVERY · INNOVATION · IMPACT

GETTING THE HEALTHCARE WE DESERVE

Professor Robyn Norton
Principal Director, The George Institute



Governments are spending record sums on health research, yet arguably much of what will be spent will have little immediate relevance to the health experiences of ordinary individuals. It will provide little benefit to our children and their children, and have even less impact on our own health: neither during the life of current governments nor during the long line of governments to follow will the impact of that research be seen.

That's a big problem as we face spiraling health spending from rising costs and an ageing population. In Australia, the government's proposed healthcare reforms rightly emphasize preventative healthcare to head off illness and avoid the need for later expensive procedures or treatments. But scrutiny of the procedures and treatments themselves has been scandalously scant, despite the blow-out in the health budget from four per cent to ten per cent of GDP since 1960. While the system is scrupulous in applying evidence-based research to determine the effectiveness of new drugs, similar safeguards seldom apply to procedures and treatments already in place. Consequently many treatments of dubious effectiveness continue to be used at the expense of exploring positive alternatives.

This brings us to the key role of research. Research is considered by many to be the unglamorous end of the medical profession, even when it holds the promise of a breakthrough. However, research that assess how best to implement known cures, treatments and procedures – is right at the bottom of this glamour hierarchy, much to our cost. We'll never get a Nobel Prize for research that identifies how best to get older people to undertake exercise to improve balance and prevent falls. Yet this unglamorous research has the potential to substantially curtail healthcare costs, because fall-related fractures are a major contributor to long hospital stays, nursing home costs, disability and death.

So who should be setting the research agenda? Surely there is an important role for those who are trying to manage patients and the healthcare budget?

Notably, the UK has switched a significant proportion of its health research spending to issues of healthcare delivery rather than biology. The British Government has recognised that end users, healthcare providers, and governments should have a major role in determining research priorities and that these stakeholders, should determine where health research dollars are spent.

We are working in partnership with Oxford University and the UK government to develop a greater research focus and approach to innovation in healthcare, involving researchers, health decision makers and clinicians. In this model all the links in the health chain – hospitals, community health centres, medical research institutes, universities and governments – will be integrated around a national centre which ensures government and community priorities are translated into a research focus.

Taken together with similar initiatives in Australia, India and China in which The George is also involved, a vision emerges of a global network of national centres for healthcare innovation.

We have much to share with China and India as their healthcare systems grow in scale and sophistication to meet the challenges of providing adequate healthcare in rural as well as urban areas. But there is no way China and India will be able to afford, in our lifetimes, healthcare systems with comparable per capita costs to our own, so more cost effective treatments and procedures simply have to be found.

Government policies to date have arguably been driven, in large part, by political, financial and bureaucratic considerations. Global health reform provides the opportunity, for a research agenda where the majority of funding targets the questions of greatest immediate relevance, with benefits to the community that are sustainable in the longer term.

Stroke survivor, Marina 36 has contributed to a new research program underway at The George Institute



CHRONIC DISEASE

NEW STROKE RESEARCH TO HELP YOUNG STROKE PATIENTS

Marina was 36 and preparing for the birth of her first child when she had a stroke, which paralysed her left side, due to a burst blood vessel in the right hemisphere of her brain. Unsure of her future after the stroke, Marina knew she would need to take a day-by-day approach to get back on track. From early on, she worked constantly on her exercises. In the early months she would walk a great deal. With a new baby she knew she needed to do as much as she could to improve her health and look after him. She took every opportunity to continue doing everyday activities.

Eighteen months later, Marina is still on the road to recovery, but says she is determined to return to full health and attributes much of her improvement to maintaining a positive frame of mind, continually practicing her physiotherapy exercises and never giving up.

Marina participated in new stroke research conducted by The George Institute, designed to assess younger stroke survivors and their ability to return to work and maintain financial independence one year after stroke.

She says she is particularly thankful for the opportunity she has had to reassess her work arrangements for when she returns to work, and counts this as one of the positive impacts of the stroke. Not only will she make sure that her work fits in with her family, she says it must make her happy - the stroke has acted as a reminder of what is truly important in life.

When Marina completed her six-month follow-up interview as part of the study, she realised just how far she has come since those early days. She can move, feel and do

most things with only a loss of her very fine motor skills. Her determination in retraining her brain, and resolve to focus on success stories of stroke patients recovery has helped her create her own success story. She is proud to have participated in a study which will contribute to other young patients recovery and well-being. "Working with The George Institute staff was fantastic. They were understanding and very positive. It's great to contribute to such important research."

You can help young people like Marina get control of their life back. To find out how, please contact Chris Ostendorf on +612 8238 2402 or costendorf@george.org.au.

SOCIAL AND ECONOMIC IMPACT OF STROKE ON YOUNG SURVIVORS

Researchers at The George Institute are conducting landmark stroke research designed to improve the proportion of younger stroke survivors returning to work. The Psychosocial Outcomes in Stroke (POISE) study is investigating whether an individual's personal, family, social and economic circumstances in the early stages of recovery are associated with returning to work one year after a stroke. Researchers will also assess the economic impact of not returning to work. Such research has the potential to inform guidelines for recovery and rehabilitation and make a big difference to young stroke survivors like Marina. For more information on this project visit www.thegeorgeinstitute.org.

MEDICAL INNOVATION 2010 CONFERENCE

A Global Perspective on Healthcare Innovation

A two-day conference at the Saïd Business School at Oxford University on 17-18 March 2010, aims to provide an exclusive insight into the global challenge of healthcare innovation. Delegates will obtain a 360-degree view of healthcare innovation, culminating in a high-level policy debate. This event is hosted by the Oxford Centre for Entrepreneurship and Innovation, The George Institute, and supported by the Oxford Biomedical Research Centre.

For more conference information, visit www.thegeorgeinstitute.org.



CHINA'S EXPANDING WAISTLINE

CHINA'S NEW-FOUND PROSPERITY HAS BROUGHT MANY BENEFITS, BUT ONE OF THE UNWANTED SIDE EFFECTS IS A GROWING OBESITY PROBLEM THAT IS CREEPING ACROSS THE COUNTRY.

On the streets of big cities like Beijing and Shanghai the problem is readily apparent. A survey carried out in 2002 estimated that almost 215 million Chinese are affected, including more than one in five of all adults, and most observers agree that the problem is only getting worse.

One group that is of particular concern to medical experts is young adolescents – the same survey estimated that seven per cent of Chinese children aged between seven and 17 are overweight or obese.

Educating Chinese teens

Dr Zhaohui Cui, a researcher with The George Institute, plans to tackle the problem by launching a pilot program in Beijing later this year, funded by the Nestle Foundation, which will educate Chinese teenagers about the benefits of a healthy lifestyle.

The program will be introduced at four junior high schools in urban Beijing, where year ten volunteer students will be trained as healthy lifestyle educators. They will then deliver four 75-minute lessons to year seven students over a three-month period.

The students' height, weight, waist measurement and hip circumference

will be measured immediately after the intervention and again four months later, to see whether it has had any impact. Questionnaires will also be used to collect information about what the students eat and how much physical activity they take.

"I chose to use peer education because I noticed that students listen more readily to people of a similar age than to their parents or teachers", said Dr Cui.

Changing perceptions

Dr Cui said there were many reasons for the growth of China's obesity problem – it has been blamed on a range of factors from changes to the traditional diet and a decrease in physical fitness to more complex factors such as the widespread belief in Chinese culture that excess body fat represents health and prosperity.

"But certainly, with the fast development of China – especially in urban areas – people's opportunity for physical activity has been limited", said Dr Cui. "At the same time China has a tradition of focusing on study rather than exercise, and the introduction of Western food has also been a factor."

The biggest challenge for Dr Cui is to persuade schools to support his project and to share valuable study time for an area that is often neglected.

Professor Yangfeng Wu, director of The George Institute China, said the growth of



Dr Cui at a school classroom in Beijing, as part of his research into childhood obesity

China's economy had not been matched by a similar leap forward in knowledge of the fundamental impacts on health of dietary habits and physical exercise.

The three-month pilot program will start in September, and Dr Cui is hoping to attract more funding to expand the project into other areas of Beijing and the rest of China.

For more information on this project, contact Dr Cui at zcui@george.org.au

The George Institute, India hosted two workshops in February focused on sharing ideas with collaborators and colleagues on how to address the issues of obesity, diabetes and urban health. Attended by Australian and Indian scientists, the sessions facilitated good discussions around how to address these pertinent issues in India.

INDIGENOUS HEALTH

A PASSION FOR INDIGENOUS SAFETY - MARILYN LYFORD AT THE GEORGE

THREE TIMES A YEAR, GEORGE INSTITUTE RESEARCH FELLOW MARILYN LYFORD CATCHES A FLIGHT FROM SYDNEY TO DUBBO, THEN SETS OUT ON THE FOUR HOUR DRIVE TO THE DUSTY OUTBACK TOWN OF BOURKE IN THE FAR WEST OF NSW.

The journey reminds her each time of the disadvantages that confront Indigenous communities in rural Australia – the remoteness and isolation, and the sheer scale of the distances involved.



But it also gives her inspiration. "It's an amazing insight to go to these places and see the strength of the community, against all the odds", she says. "And it brings home to me the qualities I admire in Indigenous people – their resilience, their forgiveness, their pride, and their determination."

Marilyn, who works in The George Institute's Injury Division, Australia, is currently organising an Indigenous road safety pilot study in Bourke. "We have consulted with focus groups and completed a questionnaire survey to identify road safety issues for the community", she explains.

"We know for some Aboriginal people there are barriers to gaining a driver's licence and we want to understand more. We also know there are concerns around speeding and driving without seatbelts or child restraints". The results from this project will help identify specific rural and remote issues, and guide further research and policy recommendations.

"The way forward," she maintains, "involves a partnership with the Bourke Aboriginal Health Service and the Bourke Aboriginal Community Working Party."

"In most cases the community knows how to solve their own problems. It's very much a case of us listening and letting the community talk to us about what their issues are."

After working in nursing Marilyn completed a health sciences degree at Edith Cowan University in Western Australia 15 years ago, and committed herself to working in health promotion.

Then at Royal Life Saving WA she worked on the Remote Aboriginal Swimming Pools project in three Aboriginal communities in the Pilbara and Gascoyne regions of Western Australia.

In 2003 Marilyn joined The George Institute. "I love working at The George, with its emphasis on cultural diversity", she says.

Marilyn is passionate about social justice issues and has a problem with those who are judgmental and instead of appreciating other cultures judge others by their own value system. "My hope is that we can move forward on this through ongoing reconciliation activities."

In the future she plans to explore Australia even more closely, but for now she finds relaxation in watercolour painting, yoga, sailing and bushwalking. And she is already looking forward to her next trip to Bourke.

"Recently I read about an Aboriginal colleague who said to a researcher: 'If we let you into our community and make friends with you, it's for life.'"

With additional resources, Marilyn and the team at The George, could do so much more for rural communities like Bourke. For more information on how you can support programs like this, contact Chris Ostendorf on +612 8238 2402 or costendorf@george.org.au.

CHANGING PRACTICE: BACK PAIN, A VIEW FROM THE GEORGE



"International guidelines for acute low back pain management recommend that treatment should begin with simple baseline care: advice to stay active, avoid bed rest and take regular simple analgesics such as paracetamol. However, our new research found that care received by patients doesn't align with these best-practice, evidence-based recommendations. In fact, only 20% of patients receive this simple treatment approach".

Chris Williams, PhD Student
Musculoskeletal Division
The George Institute



"The challenge is how we change practice so that it aligns with the evidence. One issue is the internet; it contains an interesting mix of information and misinformation. As a result treating back pain for clinicians is more difficult than ever because of common misconceptions patients bring with them to the consultation. A potential step in rectifying the situation is addressing these misconceptions with key public health messages".

Professor Chris Maher, Director
Musculoskeletal Division
The George Institute



"Paracetamol is endorsed in guidelines because it is a safe and cost-effective treatment. However the true efficacy of paracetamol for low back pain is unclear. Most people with back pain do not take paracetamol correctly. In fact, less than 10% of patients with a new episode of low back pain take paracetamol regularly up to the daily recommended dose. We are now starting a new study that will investigate the effects of paracetamol among 1650 patients from GP practices in Sydney. The results will have immediate national implications for clinical management of low back pain".

Associate Professor Jane Latimer
Senior Research Fellow, Musculoskeletal
Division, The George Institute



INJURY AND MUSCULOSKELETAL

EXPERT VIEW: YOUTH ROAD CRASHES IN CHINA

WITH THE GROWTH OF CAR OWNERSHIP IN CHINA, ROAD CRASHES INVOLVING NOVICE DRIVERS HAVE BECOME A SERIOUS PROBLEM. BUT, AN INITIATIVE BY THE GEORGE INSTITUTE OFFERS A WAY FORWARD, AS LEAD RESEARCHER DR TERESA SENSERRICK EXPLAINED.

Why is the training of learner drivers an issue in China?

In China driver training as a learner can only be done at specific driving schools with certain instructors. You get lots of manoeuvring and car handling exercise at these schools, but you don't really get to drive in real traffic on city roads, among bicycles and pedestrians.

So new Chinese drivers are going on to the roads with a licence but little experience?

In Australia and other high-income countries people get lots of practice once they get their learner licence, but that's not the case in China. Learners can't go out with their parents or friends; they can only go to these driving schools.

How do you hope to improve this situation?

We are conducting a study that gives people lessons in real traffic situations, plus an educational program, once they first get their licence. Then we are going to do surveys to see if our program brings down the crash rate.

How bad is the crashes rate at the moment among novice drivers?

It's very hard to get good data from China, but like any other country the newest drivers are over-represented in the statistics. It could be that anywhere from 30 to 50 per cent of crashes involve new drivers. And when we talk to people, they say: "Everyone will have a crash, it's part of learning to drive!"

What stage has the program reached?

It's just a pilot at the moment in Beijing. We're going to recruit about 250 people. Half will have the training and half won't. If we can show differences between the groups we would like to get major funding to roll it out to other areas, and eventually work with the Government to make it a national initiative.

Has it been easy to implement?

It's taken a long time to start it up and get business collaborators. But we're now working with the Beijing Chinese German Safe Driving Development Technology Company who are developing the educational materials with input from the NSW Australian Driver Training Association. They are also training driving instructors from the Luantai Club, and we are also collaborating with the Chinese Automobile Association. We secured pilot funding from the FIA Foundation in the UK, founded on Formula 1 funding, so it's quite an international project.

Why China?

One of our main missions at The George is to do the work where it is most needed. China has been building beautiful roads for its rapidly growing car manufacturing industry, but like most countries in this situation, it still needs help to develop behavioural and training programs. And it's a big problem. The official number of deaths is 100,000, but WHO estimates that 250,000 traffic injury deaths occur in China every year, which is 20 per cent of the world's total.

What do you hope to achieve?

We say we want to reduce crashes, but what we really want to reduce are the fatalities and injuries. In China the crash rate is so high that even if you make a 2 per cent difference, that's a huge number of serious injuries avoided and lives saved. We also want to help people in China acquire skills to take the project on, so that eventually we become just a support.

What has been the biggest challenge so far?

Getting good data from China about crash rates, so we can tailor the program to achieve the best results. But some things are true everywhere – for example, it's always more dangerous driving at night because you can't see as well. So one of the lessons in our training program will involve driving at night.

CRITICAL CARE RESEARCH TO END DEBATE

Critically ill patients in intensive care settings require fluid resuscitation to stay alive. This is a fundamental component of haemodynamic, or blood flow, management of these patients, and the choice of fluid is a long standing issue of debate among clinicians. Research to commence this year, will compare two standard treatments to see which has the best impact on survival. Voluven, a hydroxyethyl starch, will be compared to sodium chloride, better known as saline.

Researchers will also assess the impact of both fluids on renal failure and in subgroups of patients including those with severe sepsis, traumatic brain injury, general trauma, and pre-existing renal injury. This is a joint study between The George Institute and the Australian and New Zealand Intensive Care Society Clinical Trials Group, and it is anticipated that the results will impact critical care medicine in hospitals across the world. With 7000 patients due to participate, this study will equal the largest ever critical care study, which was undertaken by the same research team - The SAFE study, the results of which were published in 2006.

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