GLOBAL HEALTH at the george

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HARNESSING THE POTENTIAL OF A SINGLE POLYPILL

COULD A 'FOUR-IN-ONE' PILL BE AN ANSWER TO A CONDITION ANTICIPATED TO KILL 23.6 MILLION PEOPLE GLOBALLY EACH YEAR BY 2020?

The 'polypill' was first tabled as a global heart care solution at a World Health Organization (WHO) and Wellcome Trust meeting of medical minds in 2001. Its potential benefits have been heralded as the answer to ensuring patients adhere to treatment. It could also seriously reduce the cost of drugs, making a huge impact on the 80% of people suffering with cardiovascular diseases who live in low and middle-income countries. It is this potential that The George Institute for Global Health, along with various collaborators, is investigating as part of its cardiovascular research program.

The polypill trials underway at The George are underpinned by the significant opportunity to address cardiovascular disease on a global scale. Three separate studies, involving people from across the world, are investigating whether the polypill can provide improvements in long-term treatment rates. Researchers are also testing this new therapy in low, middle and high-income countries, Indigenous populations and those at different levels of risk.

The polypill contains four different components - a cholesterol lowering medication, two blood pressure lowering medications and aspirin. In development since 2003, it is now being tested for its benefits for those at risk of heart attack or stroke.

"We set out to drive the solution suggested at the 2001 WHO and Wellcome Trust meeting and hope soon to publish the first of a series of results from three different studies of the polypill. Initially, we have assessed the short-term efficacy and side effects among people at raised overall cardiovascular risk", says leading George Institute researcher Professor Anthony Rodgers.

As more international results come to light, George Institute researchers have high hopes for the role of the polypill.

"While by no means it is seen as a panacea for the prevention of cardiovascular disease, for most disadvantaged communities the prospect of a polypill holds considerable promise for helping people at greatest risk", added George Institute Associate Professor Anushka Patel.

A key research question is whether the polypill will also close treatment gaps. Previous research has shown many individuals with vascular disease do not continue medications in the long term, due perhaps to the complexities and cost of taking multiple drugs. This problem is particularly pronounced in developing countries.

The George Institute in India, with the Centre for Chronic Disease Control, the Public Health Foundation of India, and other collaborators, will oversee one of the polypill projects in India. The impact of such an affordable treatment in India could benefit many people and address gaps in treatment. In India, 80% of health care is paid out of pocket with the majority of people not able to access cardiovascular drugs.

"In an area of the world where rates of cardiovascular disease are rapidly increasing, reliable evidence about the effectiveness of new strategies to provide cost-effective preventative therapies to those at greatest risk are urgently required. We believe this trial will provide such evidence for a 'polypill-based' strategy", said George Institute Associate Professor Anushka Patel.

Two other parallel polypill projects are already underway in Australia and New Zealand. Collectively, these parallel trials will include around 7,000 participants in ten countries and will evaluate the potential of the polypill treatment strategy in preventing cardiovascular events.

PETER'S STORY

51 year old Peter from Bradbury, Sydney has been taking the polypill to tackle his high blood pressure and cholesterol rate. According to Peter it's changed his life. "When I found out about my high blood pressure and cholesterol I was shocked, especially because of my diabetes. Like most people I don't enjoy taking pills, and the polypill has not only solved that, but also helped me lose weight as well. I take one pill at night instead of five or six. It's awesome! It's been a life changing event for me that's improved my health and lifestyle and I wouldn't think twice about recommending it to other people."

You too can help change people's lives by supporting our polypill research. To find out how, contact Chris at costendorf@georgeinstitute.org.au.

This issue

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

GIVE YOUNG DRIVERS A CHANCE

Teresa Senserrick, PhD
Deputy Director, Injury Division
The George Institute for Global Health
Senior Lecturer, the University of Sydney

Sadly, the single greatest reason why many young people die, particularly in Australia, is not from incurable diseases, but from preventable events such as road crashes. Crashes not only result in many deaths but also in life-long injuries. How can we better address this and reduce the risk for young drivers?

Research shows that in the first year of driving crash risk is at its highest. This peak in risk is extreme but reduces rapidly during that first year and more gradually thereafter. This is why laws, such as limits on alcohol and night driving, are vital.

Young age is also a factor. Young people are prone to distractions and are more likely to take risks when driving: a reason why laws limiting the number of passengers that young drivers can carry are important. After years of positive outcomes in the United States and New Zealand, these laws are slowly making their way to Australia – although in a limited form that could be strengthened.

Often, the issue of speeding leads and shapes the debate surrounding young drivers. This is one issue where others are quick to judge our young drivers. However, it's important to note that speeding is very much an unwelcome part of wider Australian culture.

Speeding accounts for around 200 road fatalities and 4,000 injuries each year in the state of New South Wales. We have tougher penalties for young drivers that speed and a lower demerit point threshold. Yet, we still face community outrage about the use of speed cameras. This is despite an estimated prevention of several thousand casualties in Australia thanks to the use of these devises. Our oppistion to speed cameras only lends weight to the perception that as a community we believe that speeding is acceptable.

We must continue to work with young people and legislators to make sure that safety policies are implemented and understood. However, the real challenge is to achieve a cultural change in the perceived acceptability of speeding. It's only through achieving this change that we'll save lives and make a real difference to our young people.

A PASSION FOR CHILD SAFETY: DR LISA KEAY AT THE GEORGE INSTITUTE

Many people would be shocked to know that children are being injured in cars at an alarming rate.

"Even though we've had major improvements in the past 20 years, two out of three children in Australia are not restrained in the right way in cars which puts them at great risk of injury." As an injury researcher with an interest in health promotion and as a mother, Dr Lisa Keay should know. Having worked in the field for some time, Lisa has matched her background in public health with her passion for improving the safety of vulnerable drivers in a new study called 'Buckle up safely'.

"Babies are quite well restrained in cars in Australia, but there is a gap from the age of 2 to 8 where children could be better restrained and protected when involved in a crash. At the heart of the problem is matching the size of the child to the type of restraint and using it correctly."

"The cost of child restraints is actually at play here. However, it isn't the only issue. It seems that parents are unaware that they aren't doing things correctly."

The study involves testing a targeted education program in 14 pre-schools and long-day care centres, which will then be compared to 14 other schools which have not received the program. After 12 months, Lisa and the team will compare the two groups of school to see the impact of the program. Researchers will also investigate the impact of the program in Indigenous communities.

"If we can prove the benefits of the education program, we hope it will become a key part of early childhood services."

The research is very timely, as it coincides with a legislation change in Australia. Lisa believes the law will make a positive difference, but people will still need to be informed of how to use the seats properly and which seats to use.

"This study is about making a difference, and motivating people about choosing the best options. I'm passionate about protecting vulnerable road users, and children are particularly vulnerable in car crashes. An injured child can potentially mean a life of disability, so it's important that we get child restraint used in the correct way."

To read more about the 'Buckle up safety' study and key collaborators, visit www.georgeinstitute.org.au. If you share Lisa's passion for child safety, please consider donating to our road safety program. Contact Chris on +61 2 8238 2402 or costendorf@georgeinstitute.org.au.

PhD STUDENT VIEW: BURNS AND FALLS IN INDIA

PhD student, Jagnoor Jagnoor is investigating the risks related to two of India's biggest health challenges.

Q: WHAT IS THE IMPACT OF BURNS AND FALLS IN INDIA?

Burns and falls are leading causes of injury-related deaths in India. Burns are a particular issue for Indian females who use kerosene stoves in the home. Very little data exists on the mortality rate associated with burns.

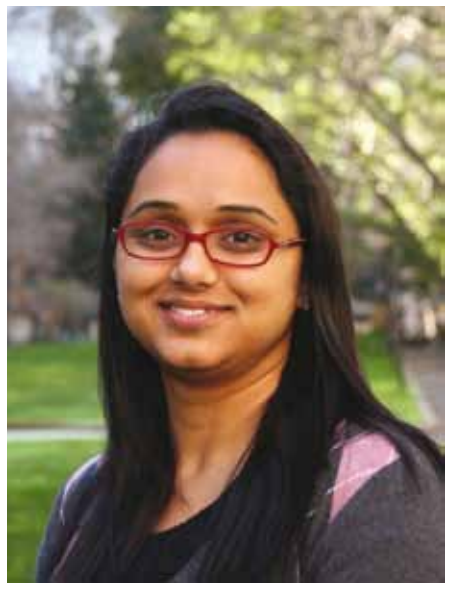
Falls injury in India is a major unrecognised public health challenge. As with burns, minimal research exists on related morbidity and mortality. India has a high percentage of falls among the elderly. It is estimated that by 2020 the elderly will comprise 59% of all falls patients.

Q: WHAT RESEARCH ARE YOU UNDERTAKING IN THIS FIELD?

I'm doing a retrospective study of around 1,800 medical records from a North Indian hospital, reviewing the details for burns and falls patients. I'm particularly interested in the potential risk factors for burns and falls patients, including demographics and clinical details of treatment.

Q: WHAT DO YOU HOPE TO ACHIEVE?

I hope that the results of my burns research will inform policy changes regarding the use of kerosene stoves. This has the potential to lead to further research into alternative safer cooking fuel for low income families. With regard to my research on falls, we hope to use this information to develop studies that will help the elderly population to avert falls.



GATES GRAND CHALLENGE

THERE IS NO BIGGER TEST FOR HUMANITY THAN THE CRISIS OF GLOBAL HEALTH. WITHOUT COMPASSION, WE WON'T DO ANYTHING. WITHOUT SCIENCE, WE CAN'T DO ANYTHING. – BILL GATES

Billions of dollars are spent across the world annually on research into medicines. However, only a very small percentage of this investment is actually focused on diseases that cause millions of deaths each year in developing countries. In 2003, the Bill & Melinda Gates Foundation launched the 'Grand Challenges in Global Health' initiative in an effort to address this imbalance.

Grand Challenges in Global Health is part of a family of programs focused on one unifying purpose. This is to overcome persistent bottlenecks in creating new tools that can radically improve health in the developing world.

In India, The George Institute is involved in Gates Grand Challenge #13, which seeks to develop new technologies that permit better quantitative assessment of population health. Alongside key collaborators at the University of Queensland in Australia and the University of Washington in the United States, researchers are looking into the effects of disease on populations in developing countries across the globe. This study will initially focus on The Philippines, Tanzania and India.

The primary goal of this initiative is to develop instruments that will more effectively measure mortality, causes of death and the diseases that people are living with. Ultimately, the tools that are developed will enable better health planning. Policy-makers will be able to review clear evidence of the landscape of diseases in these countries. At present, data is often very limited in these countries, and can be misleading.

In late 2009, the project initiated a household field survey in rural Andhra Pradesh, India that ran until the middle of 2010. The survey gathered information from some 7,000 households in 30 villages in rural Andhra Pradesh in Southern India. 23 interviewers completed the field research and were supported by a leadership team based at The George Institute in Hyderabad, India.

Bruce Neal, Senior Director at The George Institute said, "There have been major problems gathering and deciphering information about common diseases in developing countries. Different methods and limited resources have been a huge issue. Through this project we will develop standardised tools that can be used at low cost around the world. This will be a big step forward because we will be able to directly compare data from different locations and different time points. Importantly, we should also be able to collect information more regularly as the process will be streamlined and cost much less to undertake."

GEORGE PARTNERS: HARNESSING THE POWER OF RESEARCH TO DRIVE THE HEALTH CARE EXPERIENCE

In the current environment of growing health care resource constraints, the need for innovation in health care delivery is undisputed. The challenge is to build the evidence base and systematically incorporate it into health service strategies.

The Institute's new initiative – George Partners has been created alongside the George Centre for Healthcare Innovation at the University of Oxford. George Partners will support both the strategic and tactical activities of health service providers by harnessing rigorous academic health care research to inform policy, system design and service delivery.

Working collaboratively with health care providers and policy-makers to harness the thinking of the world's experts, George Partners will combine the best of the academic and business worlds for better health outcomes.

LEADING AUSTRALIAN RESEARCHER RECEIVES HIGH HONOUR FROM FRENCH PRESIDENT

Esteemed researcher and Senior Director at The George Institute for Global Health, Emeritus Professor John Chalmers has been appointed an Officer in the National Order of Merit of France. Advised via a personal letter from the French President, Nicholas Sarkozy, the title was formally conferred on Friday, 23 July at a ceremony at the French Embassy in Canberra, Australia. The award represents another fitting tribute to John's extensive, international contributions to medical research, in particular his support of French-Australian research collaborations. A fluent French speaker, John has been at the forefront of forging strong research ties between France and Australia.

John Chalmers (left) and His Excellency Mr Michel Filhol, French Ambassador in Australia

CHANGING PRACTICE: ADDRESSING SMOKING IN THE ASIA-PACIFIC, A VIEW FROM THE GEORGE

Dr Alexandra Martiniuk
Senior Research Fellow
The George Institute for Global Health.

New research has revealed that the number of people dying from smoking-related lung cancer over the next two decades is expected to double in the Asia-Pacific region if current smoking habits remain unchanged.

"If people in developing countries in the Asia-Pacific region continue to smoke at the current rate, twice the amount of lung cancer deaths due to smoking will occur in the next two decades. The benefits of quitting are enormous and smoking cessation urgently needs to be embraced by governments in the region."

Dr Alexandra Martiniuk, Senior Research Fellow, The George Institute for Global Health.

Smoking kills around 5 million people across the world ever year. While many developed countries are reaping the benefits of smoking cessation initiatives, the majority of smokers now live in lower and middle-income countries. One-third of the world's 1.3 billion smokers now live in the Asia-Pacific region where uptake of smoking is still high. These countries predominately have underdeveloped health care systems compounding problems of late diagnosis and access to care. In Australia and the US survival rates are up to 80% for lung cancer if detected early. This compares to a paltry 9% in the Asia-Pacific region.

"The key recommendation for the region is that governments sign up and follow through with the 'Framework Convention on Tobacco Control' guidelines. They need also to legislate to curb sales to minors, prevent indoor smoking and regulate tobacco advertising. This has proven to be hugely successful in other developing countries – and is an important first step for countries aiming to curb the smoking epidemic."

Dr Alexandra Martiniuk, Senior Research Fellow, The George Institute for Global Health.

LIFESTYLE RISK FACTORS

CHINA'S COSTLY LOVE AFFAIR WITH SALT

TRADITIONAL CHINESE FOOD IS FAMOUS THROUGHOUT THE WORLD FOR ITS DELICIOUSLY RICH AND VARIED FLAVOURS. BUT THOSE FLAVOURS CAN COME AT A HEAVY COST, BECAUSE THE SALT CONTENT OF SOME CHINESE FOOD CAN BE AMONG THE HIGHEST IN THE WORLD.

Medical research has established that excessive salt intake can lead to high blood pressure, which is a major cause of stroke and heart attacks. In China, cardiovascular disease is already the leading cause of death and will account for four million deaths per year by 2020. Statistics from the World Health Organization estimate that from 2006 to 2015, the cost of heart disease, stroke and diabetes in China will hit US$558 billion.

Current trends do not give any grounds for optimism, says Jacqui Webster, Senior Project Manager of the Australian Division of World Action on Salt and Health (AWASH) at The George Institute for Global Health. "In countries like China there is a trend away from traditional diets towards imported and processed food. There is also a greater tendency to eat out, particularly in urban areas, which contributes to increased salt consumption."

AWASH has successfully lobbied many large food companies to reduce the salt content of their products and meals, and has also raised public awareness through the media.

The China Salt Reduction Institute (CSRI), co-hosted by The George Institute in China, and the Peking University Health Science Center, is about to launch a national salt reduction campaign in late 2010. The campaign brings together professionals from medicine, science, the food industry, media, consumer associations, government and non-governmental organisations in China. They have a primary objective of reducing the average amount of salt consumed in China by 5g per day over the next 10 years.

The George Institute for Global Health, China has also encouraged the use of salt substitutes. These have been shown to reduce blood pressure levels compared to regular salt in some Chinese rural communities including in Tibet.

World Action on Salt and Health (WASH), established in 2005, aims to reduce the level of salt in processed foods as well as the amount of salt added during cooking and at the dinner table. At present, WASH has 379 members from over 80 countries and the support of the WHO. For more information on WASH, please visit: www.worldactiononsalt.com.

Our work in this area is critically important and we need your support. To find out how you can help, contact Chris Ostendorf at costendorf@georgeinstitute.org.au.

GOVERNOR-GENERAL OF AUSTRALIA VISITS THE GEORGE INSTITUTE

The Institute was honoured to host Her Excellency, The Governor-General of Australia, Ms Quentin Bryce, on a recent visit to The George Institute for Global Health in Sydney. Her Excellency was briefed on the Institute's work in ageing and disability, which led to a discussion about the future of health care delivery in Australia and innovative solutions for equal access to health care, particularly for disadvantaged populations.

The Governor-General is the representative of Her Majesty The Queen in Australia. Her Excellency, Governor. General Ms Quentin Bryce meets Dr John Yu, Professor Robyn Norton and Professor Stephen MacMahon.

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