SCHIZOPHRENIA TRIAL UNDERWAY
Message from the Executive Director

Our recent development of five clinical research laboratories and four research-participant interview rooms has boosted our capacity to undertake critical patient-focused research.

It is logical for us to expand our work and productivity as the potential for effectively treating so many disorders is within our reach. Establishing research clinics that translate the knowledge we gain into realistic health benefits provides the means by which the Institute can make an important contribution to health care reform. We are keen to harness our skills and capacity to contribute to this important challenge.

One such example of this is the clinical trial featured in our cover story which is examining the effectiveness of a new treatment for schizophrenia. This devastating disease waits silently until a seemingly normal child becomes a teenager or young adult – and then it strikes, derailing a young life.

There are so many misconceptions about schizophrenia which are often exacerbated by the views expressed in the media. It is true that prolonged treatment is required but, with proper management, people suffering from schizophrenia can lead comfortable lives within the family and community. It is only through continued research in genetics, neuroscience, and behavioural science that scientists will be able to understand how it may be predicted and prevented.

Cover Photograph: Peter Kemball takes part in clinical trials with Research Assistant, Loretta Moore

And so, without doubt, it is Peter’s story that brings everything into perspective for us not just as scientists, but as human beings. We can talk about health care reform, expansion and productivity, but it all comes down to one thing – we know we can, and must, do more for people like Peter.

In recent months we have heard much about health care reform, with Prime Minister Rudd, Health Minister Roxon and other members of the government undertaking extensive national consultations. Indeed, the Institute was delighted to host one of these forums with a focus on health and medical research that was led by the Parliamentary Secretary for Health, the Hon Mark Butler MP. We expect that improving the capacity of our health care system to deliver cost effective, comprehensive care for all Australians will form one of the key policy agendas of the government.

Health and medical research provides the knowledge base that is crucial to improving our health system. For the disorders of the brain, we do not even know the cause of more than half of the burden of illness and disability. Only neuroscience research will close this gap.

The financial support from the National Health and Medical Research Council (NHMRC), which recently announced the funding of successful proposals for 2010, enables the maximisation of our research capabilities. I continued to be impressed by the success of our researchers in gaining competitive NHMRC research fellowships, where four of our five applications were successful, and in project grants where we had a success rate well above the national average.

I would also like to congratulate Prof Stephen Lord and his team who were awarded one of the three top funded NHMRC Partnership Grants to implement falls prevention research into policy and practice. This team aims to transform the knowledge that has been gained in how to assess and prevent falls into improvements in health by working with the hospitals and clinics for the application and implementation of this work for the benefit of all Australians.

Professor Peter R Schofield PhD DSc
Executive Director and Chief Executive Officer

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SCHIZOPHRENIA TRIAL UNDERWAY

Cognitive impairment in people with schizophrenia is resistant to treatment and is related to poor community functioning and quality of life.

In spite of the widely appreciated magnitude of this problem, there is still a critical knowledge gap concerning which treatments may be able to reverse these cognitive deficits.

Prof Cyndi Shannon Weickert’s lab has discovered that people with schizophrenia are more likely than others to inherit a gene that codes for a faulty brain hormone receptor. In collaboration with Dr Thomas Weickert, who studies cognitive abilities in people with schizophrenia, she has recently taken her molecular finding from the laboratory “bench” to the clinical “bedside” and begun a treatment trial aimed at restoring function to those abnormal hormone receptors in the brains of people with schizophrenia.

“A drug that is already approved for use as a treatment for osteoporosis may be able to stimulate the abnormal hormone receptor and restore function to brain circuits and cognitive processes in the brains of people with schizophrenia,” said Prof Shannon Weickert. “This drug has also been shown to prevent memory decline in healthy ageing.”

In the new clinical trial in people with schizophrenia, Dr Weickert examines memory, language, and daily skills to determine whether this new use of an existing medication will have similar benefits in people with schizophrenia. "The first group of 13 people with schizophrenia is scheduled to complete the 13 week trial by mid December this year," said Dr Weickert, "and we have the next group of 24 people with schizophrenia scheduled to begin the trial in February 2010.

This clinical research trial is significant because it will help to clarify the role of hormones and genes in relation to cognitive deficits in schizophrenia and it may help people with schizophrenia improve their level of functioning."
Revolutionary 3D Brain Mapping Website

A new global 3D brain research website has been launched based on the remarkable brain mapping work of Institute researcher and cartographer, Prof George Paxinos AO. The website will revolutionise research and surgical work and have far-reaching impact on universal neuroscience.

“BrainNavigator, www.brainnav.com, animates hundreds of interactive images and maps of human and animal brains in 3D and 2D formats that we originally created and published in book form over the past 30 years,” said Prof Paxinos.

Prof Paxinos and Prof Charles Watson have co-authored 34 books on the mapping of human and animal brains. “They have been the pre-eminent source of detailed brain images for researchers all over the world,” Prof Paxinos said.

This 3D neuroscience research tool, which will revolutionise the study of the human brain, is a collaboration between Prof Paxinos, international medical publisher Elsevier and Microsoft co-founder Paul Allen’s Allen Institute for Brain Science.

BrainNavigator is an online, interactive, 3D software tool that maps brain images and anatomy, helping researchers, especially neuroscientists, save time and improve the quality of their daily research. The 3D capabilities help locate the position of structures within the brain making visualisation and understanding of the brain easier.

“Traditionally, researchers used the print atlases to help identify structures, for example when viewing brain tissue under a microscope. Now, brain images are no longer only shown as flat maps but as objects with depth,” Prof Paxinos said.

Commenting on this radical new website, the Institute’s Executive Director, Prof Peter Schofield said, “George’s atlases have been the street directories that scientists around the world have used to study and map the brain. But the three dimensional BrainNavigator’s advanced capabilities represent the quantum leap that GPS satellite navigation and interactive web based maps have provided for our cars. This will facilitate significant new opportunities for human brain research.”

PETER’S STORY

In early 2002, I was diagnosed with paranoid schizophrenia.

Since then, I’ve been taking anti-psychotic medication. I’ll probably need to take this medication for the remainder of my life but I believe in the medication, as I believe in the trials I’m taking part in now. I’d much rather have the symptoms of lethargy, lack of motivation and blue mood than the symptoms of paranoia, delusion and hallucination.

I like to believe that my mental illness has been a blessing. Being 30, I’ve spent the most part of my 20s growing emotionally and psychologically. I believe dealing with my illness or condition as I like to call it has enabled me to become more self-aware as well as aware of my surroundings.

During my teens, I smoked a lot of marijuana and took some acid. My teens were difficult years of low self esteem, where I used drugs as a form of therapy and escape. I don’t know if this drug abuse led to my condition, but for now and forever I will abstain from all drugs and alcohol. I like my natural state of awareness.

My condition has deepened and strengthened my relationship with my family and has led me to marvellous people, including my case manager who is an angel and a saint.

Having just completed my first year at university studying Fine Arts, I now look to the future with optimism and faith. Faith in Life and its mysterious and unpredictable process.

Peter Kemball
The greatest health challenge of our time

The growing incidence...

There are ominous forecasts, as the population ages, that this brain destroying disease is set to become the greatest health challenge the Australian community has ever faced.

A new report predicts there will be over 1.1 million Australians with dementia by 2050 as dementia becomes the largest source of health and aged care spending. The cost of community and residential care for dementia is already $5.4 billion per annum.

The figures are contained in a report commissioned by Alzheimer’s Australia from Access Economics, Keeping Dementia Front of Mind: Incidence and Prevalence 2009-2050.

The report warns that future growth in the number of people with dementia will have substantial consequences for the already pressured Australian health care system and the quality of life of Australians.

Within our lifetime, neurodegenerative diseases, and in particular dementia, will overtake disorders such as cardiovascular disease and cancer as the major threats to Australian health and quality of life. If current trends continue through to 2060, spending on dementia will outstrip that of any other health condition, reaching $83 billion.

Major new investments in research are urgently needed to uncover what causes dementia and how to slow, if not stop, this creeping brain disease that gradually robs sufferers of their memories and ability to care for themselves. There is no known cure; today’s drugs only temporarily alleviate symptoms.

Prof Peter Schofield said there were now realistic prospects both of identifying people earlier at risk of dementia and of therapeutic interventions that will delay dementia or slow its progression.

“But if that is to become a reality, then significantly greater investment is needed in dementia research,” he said. "To protect the health and care budget from a significant blowout in the decades to come, a dramatic increase is needed in dementia research now to identify therapeutic interventions that will prevent or modify the progression of dementia.”

Online Dementia Management Guide released...

An online family guide to assist in the care and management of sufferers of Younger Onset Dementia has been released by the Institute.

With more than 10,000 Australians under the age of 65 diagnosed with Younger Onset Dementia, the downloadable guide has been developed to help families and carers identify and manage the disorder in everyday life. The guide is available at: http://www.ftdrg.org/wp-content/uploads/yod-practical.pdf.

Prof John Hodges, whose team compiled the booklet, said research indicated that an increasing number of Australians are being identified with younger onset dementia in their forties and fifties. “The booklet is a collection of information especially directed to patients and families with younger onset dementia. Before this publication people would have to rely on different bits of information from different agencies, which was overwhelming and confusing,” Prof Hodges said. “It offers practical advice which is not available anywhere, much of which is specific to the families of younger patients with dementia such as the impact on teenage children.

Prof Hodges said he hopes the access to information will empower the families of people with Younger Onset Dementia. “In this way we hope to reduce levels of stress and increase the ability to cope better with this terrible condition,” he added.

*The booklet was commissioned by Alzheimer’s Australia and funded by the Federal Government.

Memory problems and falls

Can you help solve the puzzle?

The Falls and Balance Research Group at the Institute is seeking older people and carers to participate in a study looking at falls in people with cognitive impairment (problems with brain function including memory loss).

Falls and fractures are more common in people with cognitive impairment and dementia, with rates that are double that of cognitively well older people. Cognitive impairment is not only associated with an increased risk of falling but also carries a higher risk of hip fracture. A hip fracture is a devastating injury for an older person and is associated with risk of death, reduced ability to function independently and an increased need for nursing home care.

As little is understood about the relationship between falls and cognitive impairment or dementia, researchers and clinicians are undertaking a new study, the aim of which is to devise interventions that can stop older people with cognitive impairment and dementia from falling and sustaining a fracture.

Participants over 65 will undergo a series of assessments, the majority of which can be undertaken in their own home. For further information about eligibility, please contact Stel Mikolaizak or Morag Taylor at the Institute on 02 9399 1058.
Training supports spinal injury

Training people with spinal cord injuries to improve their ability to sit unsupported is the focus of research undertaken by Claire Boswell-Ruys.

“The unsupported sitting position is extremely important,” said Claire, “as it allows people with spinal cord injuries to perform a variety of tasks that are essential to everyday living.”

“Some of these tasks included reaching across a table and to the rear of cupboards or high shelves, getting in and out of cars, shopping and even daily self-care activities.”

The study involved 30 people with injury to their thoracic spine. Half the participants were given a structured exercise programme by a physiotherapist specifically aimed at improving their unsupported sitting ability. The remainder continued with their normal activities throughout the trial.

“The exercises were conducted for one hour sessions, three times a week for six weeks and included reaching, fitness exercises, specific strengthening regimes and some entertaining games to add variety and interest,” Claire said. “Specific measures of unsupported sitting ability and task performance were obtained at the beginning and end of the trial by an assessor blinded to the participants’ training regime. Some of these measures included tests of leaning and reaching ability and a functional test involved a fundamental aspect of anyone’s day – quickly putting on and taking off a T-shirt.”

Claire’s results showed that specific training can improve the ability of people with spinal cord injuries to sit unsupported. This improvement can be translated into an improved ability to perform tasks that are not only important to the participants but essential for everyday living. This trial has been a component of Claire’s PhD studies under Prof Stephen Lord and has recently been published in the academic journal Spinal Cord.

YOU HOLD THE CARDS

to beat Alzheimer’s disease and other dementias

Calling all bridge players and bridge clubs
Join the 2010 Bridge for Brain Research Challenge 1-7 May 2010

The Challenge promotes the benefits of playing bridge, whilst raising crucial funds to continue research for treatments and cures of Alzheimer’s disease and other dementias which are fast becoming the public health crisis of the 21st century.

For further information and to register your team or club, contact Suzy Randjelovic email s.randjelovic@powmri.edu.au or telephone 02 9399 1075

An Inspiration

Marj Webb is one of those people. Through being personally touched by Parkinson’s disease, Marj realised that overtly supporting research was a way of helping both herself, and others, come to terms with the unfortunate realities of the disease. This resolve is an affirmation of her belief that medical research can, and will, find answers.

Originally from Waverley in Sydney, Marj and her husband Bill moved to the Southern Highlands 25 years ago but, sadly, Bill was diagnosed with Parkinson’s in 1992. Together they became actively involved in the Southern Highland Parkinson’s Support Group which, through regular meetings, provided an opportunity for those in similar situations to share information and offer support.

Tragically Bill passed away at the end of 2007 but, beforehand, he made the decision to donate his brain to the Institute for research.

“Bill and I became passionate about finding a cure for Parkinson’s,” said Marj, “and, even now, two years after losing Bill, I’ve continued as President of the Parkinson’s Support Group offering support to those suffering or in need of practical advice with regard to care.”

In acknowledging her support, Prof Peter Schofield said that Marj has a genuine care for others who are in the same situation as she is and is resolute in her desire to help raise awareness of the Institute’s work. “With people like Marj supporting our research, we know we can succeed in translating our research into real benefits for patients. She is a true inspiration. We thank her sincerely.”
More than ever before, Australians are facing the anguish of caring for family members living with diseases that affect their mind and their mobility. The solutions will only be found through medical research.

The Institute’s Foundation has been established to fund the research undertaken at the Prince of Wales Medical Research Institute. It enhances the vital brain research programs through a progressive fundraising strategy and plays a key role in underpinning ambitious research goals developed by the Institute.

By financially supporting the Foundation, you will provide researchers with a critical resource for moving closer to discoveries that will lead to cures. Monetary and in-kind donations are essential, and multi-year commitments that empower researchers to pursue their passion for cures are encouraged.

You can help by making donations to:
- Where best needed
- Specific disease research projects
- Fellowships and Scholarships to support internationally-recognised researchers
- Leading edge equipment to ensure scientists remain at the forefront of global research
- Seed funding to grow the work of innovative young researchers

YOUR SUPPORT IS NEEDED
There are many ways you can help our scientists in their quest to combat disease and reduce the tragic human toll in Australia and around the world. Through discussion, we can help you make the best-informed decisions about giving.

Please contact:
The Foundation
Phone 02 9399 1122

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