

UNDER THE MICROSCOPE

NEWSLETTER OF THE TELETHON INSTITUTE FOR CHILD HEALTH RESEARCH



Telethon Institute for
Child Health
Research

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MEET OUR NEW DIRECTOR

The Telethon Institute's new Director, Jonathan Carapetis, stepped into the top role in July and has hit the ground running.

That's hardly a surprise when you look at the track record of the man who is determined that research makes a real difference.



PROFESSOR CARAPETIS WITH WIFE SUE AND DAUGHTERS STELLA AND EVELYN.

Jonathan Carapetis jokes he's working his way around the country.

Raised in Adelaide, he did his medical training in Melbourne before heading north to Darwin for his PhD studies at the Menzies School of Health Research, where he would return in 2006 as Director.

Under his leadership, Menzies doubled in size and tripled research income while forging new directions in research and training to tackle the big problems in Indigenous health.

So when he was approached to consider the Director's position at the Telethon Institute in Perth, he was up for a new challenge.

"As a family, lifestyle is really important to us and we had already earmarked Perth as a place we could live long-term. I was very familiar with the outstanding reputation and work of the Telethon Institute, so in that regard it ticked all the boxes."

With his wife, paediatrician and epidemiologist Sue Skull, and young daughters Evelyn and Stella, the

family have already settled into WA.

"It's only the dog who has offered any resistance," Jonathan laughs. "But the girls are making friends and loving school and, for a couple of Darwin kids, are enjoying the changes of season that you just don't see in the tropics."

Jonathan is recognised as an international leader in research into rheumatic heart disease. While rare in most developed countries, Australia has one of the highest rates of the disease in the world due to its prevalence within Aboriginal and Torres Strait Islander communities, particularly in Northern Australia.

"I think there's a real opportunity for the Telethon Institute to use its great location in Perth to reach out more to Africa and Asia and really take a bigger role in these international health issues that are massive on a global scale," he said. "And as is too often the case, it is the children in these countries, and our own, that suffer the worst effects of diseases that really should be preventable."



PROFESSOR CARAPETIS CHECKS UP ON STUDY PARTICIPANT MORGAN WHILE DAD TRAVIS LOOKS ON.

In his first two months in the job, Jonathan has already launched a strategic planning process to lay out the blueprint for the next five years.

"There is so much that we are doing well – and I don't want to stop any of that. I want to see where there are opportunities for us to take some of this research further. What are the big questions that we're not looking at but should be, and as a fundamental consideration, what impact is our research having in making life better for children and families?"



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Piecing together the mental health puzzle

It was last century when a national survey of the mental health of Australia's children was conducted. So what can we expect the mental health of our kids to be like in this new millennium?



THE STUDY TEAM

The Telethon Institute has been awarded a major government contract to collect new information on emotional and behavioural problems in children.

The \$6 million study, the 2nd National Mental Health Survey of Children and Youth, will be led by UWA Professors David Lawrence and Stephen Zubrick.

Professor Lawrence said the study will provide valuable new information given Australia's population has grown and changed substantially since the last survey 15 years ago.

"The economy, family life and opportunities and expectations of children and young people have changed with the times," said Professor Lawrence.

"These are very much children of the electronic age and we need to understand the impact of that.

"We have benchmark information

from the first study 15 years ago and this survey will allow us to understand how the mental health of our young people has fared over time."

Professor Zubrick said the study will also allow an assessment of how current mental health policies are meeting the needs of Australian children and young people.

"Surveys like this are important in answering questions such as whether we are doing enough in terms of mental illness prevention programs, in promoting mentally healthy development in communities, families and individuals. Are we ensuring children and young people who need treatment are able to receive it and that we are delivering care where it is needed to those who need it most?" said Professor Zubrick.

"This survey will provide new information to allow appropriate policies and planning and to enable

families and communities to better respond to need and to better implement promotion and prevention strategies."

About the survey

It will take place from May to September 2013.

Around 5000 children aged between 4 and 18 years from across Australia will take part.

The study will look at:

- mental health status
- the burden of mental health problems on families, schools and communities
- use and need for mental health services by Australian children and adolescents.

Participation in the survey is voluntary and with consent.

Research for the tiniest babies

Stephen and Alison Ball's baby Amelia gave her parents a fright when she was born early at 32 weeks, weighing a tiny 1.8kg. After five and a half weeks in hospital, where she gained weight and learned to feed, she was given the all-clear to head home with mum and dad.

Stephen and Alison recently joined pregnant women and other parents of premie babies at a 'community conversation' at the Telethon Institute. The event was held so researchers could find out more about the experiences of parents and hear what they think are important premie birth issues for future research.

Premature birth has been increasing in the past 20 years and while many premie babies grow up to be perfectly fine, some are more likely to have certain health problems, including infections and allergies. Our current research is designed to better understand the causes of premie birth and look for any problems which may arise later in life.

A big thank you to those who participated!



What's our vision?

Fast forward in your mind five years to the year 2017.

We know that by then the Telethon Institute will have moved to its state of the art research facility within the new children's hospital.

We know that it will still be committed to delivering on its mission to improve and promote the health and wellbeing of all children.

But the big question is how will we best achieve that aim?

The Telethon Institute's new Director Professor Jonathan Carapetis is inviting anyone with an interest in child health research to contribute to our new strategic vision.

Feedback is being sought around two overarching considerations:

- How can we make sure that the work of the Telethon Institute leads to improved health and wellbeing of children and young people?
- How can we position the Telethon Institute to be the best, and most relevant, child health research institute in Australia, and among the best in the world?

A confidential survey is now available on our website at childhealthresearch.org.au or you can email ideas and suggestions to strategy@childhealthresearch.org.au



Environment during pregnancy affects babies' immune development

Children born in modern industrialised environments have more responsive immune systems at birth than children from traditional environments.

The study by the Institute compared the function of immune cells in the cord blood of babies from Perth and those from the highlands of Papua New Guinea.

Study author Joanne Lisciandro said the finding is both a positive and a negative for a child's health.

"The immune cells in children born in modern environments are more responsive following stimulation, potentially to infection or allergen," Dr Lisciandro said.

"While that might mean they are capable of mounting a good

immune response to infection, there is also a greater risk that their immune systems become over reactive and they develop allergic and autoimmune disease."

Dr Lisciandro said these findings add to the growing body of international evidence around the 'hygiene hypothesis' that modern environmental settings have a significant impact on how a child's immune system develops.

"The mothers in our Papua New Guinean study population experienced very different environmental and lifestyle conditions during pregnancy, including greater exposure to microbes and parasites, as well as differences in other factors such as diet," Dr Lisciandro said.



"The incidence of allergic and autoimmune disease in Papua New Guinea is relatively rare.

"We suspect that the newborn's immune systems have been well primed in the womb and therefore are more likely to mount a normal response to common allergens."

The work was done in collaboration with researchers from the Papua New Guinea Institute of Medical Research and the UWA School of Paediatrics and Child Health with the results published in the *Journal of Allergy and Clinical Immunology*.

World's largest study of language development

We've listened to their first words, their first sentences, and their first conversations. Now we'll be following the language development of 1000 sets of West Australian twins for a further five years as they head into their teenage years.

The Institute's Looking at Language study has been awarded a prestigious international grant making it the largest, longest and most comprehensive study of language and literacy development in the world.

Principal Investigator UWA Professor Cate Taylor said the study will answer some fundamental questions about how and when children learn to talk, and what can be done to help those who struggle.

"At the moment we know that most children start to talk between 12 and 24 months, yet we have no idea why some children begin much later," Professor Taylor said.

"This is the first study that will be able to compare early language

development with language ability in adolescence, when we know that language is at near-adult levels.

"If we could predict those language difficulties that were going to persist, then we could be much more focussed and helpful in providing effective early therapies for children."

Professor Taylor said she was overwhelmed by the commitment of the families involved in the study.

"By looking at twins and their families, we have an unprecedented amount of data around genetic and environmental influences on language. We will also be able to look at the effect of being a twin in how language emerges," she said.

"This type of research is only possible because hundreds of families have committed their time and energy to helping us unlock the mysteries of language.

"We are very grateful for their support and hope they are as thrilled as we are to be involved in a study of such international significance."

The project, which began in 2002, is an international collaboration between the Telethon Institute, Kansas University and the University of Nebraska Medical Center.

The latest grant from the USA-based National Institutes of Health (Award Number RO1DC05226) is their third successive renewal of funding for the study allowing us to continue the research for another five years.

PROFESSOR CATE TAYLOR WITH TWINS CHLOE AND ERIKA



Super Ethan inspires research

A new research scholarship to combat childhood brain tumours has been launched in honour of two-year-old Perth toddler Ethan Davies.

The annual scholarship fund aims to raise an initial amount of \$150,000 to support a neurosurgeon to undertake innovative research in the Brain Tumour Laboratory at the Telethon Institute.

Here is an edited extract from the heart-wrenching speech delivered by Ethan's dad Shannon at the launch of the scholarship fundraising campaign.



Someone Else's Child

My two-year old son has brain cancer. That is still a difficult thing for me to say, although not as difficult as it was in January this year when Ethan was first diagnosed. It has become less difficult only because I have, over the last few months, reconciled myself to the fact that my son – my beautiful boy who is so generous with his smiles and laughter, who loves dancing and reading books, and wrestling on the bed – the same boy I hoped (and still hope) to one day kick the footy with, to play cricket with – the same boy whose eyes tell my wife and I that he loves us but who doesn't have the words to say it – may very well die from this disease.

A while ago, I thought that brain cancer was the sort of thing that only happened to Someone Else's Child. A sad story that you saw on the television, or read about in the

paper. The sort of thing I might have pointed out to my wife, Christie-Lee, but not the sort of thing I would have worried about, because that was Someone Else's Child. As you read, you can either think of Ethan as Someone Else's Child, or you can think of him as your own child, your own grandchild, or the child of your friend or other family member.

* * *

Christie-Lee and I planned for Ethan's arrival with meticulous detail – read all the books and pamphlets, went to the classes, took the supplements, steered clear of soft cheeses, bought all the stuff which

met Australian Standards. And, on 2 May 2010, Ethan entered the world with a howl. A beautiful baby boy.

Like many men, it took me some convincing before I agreed to have a child. I had never liked other people's children and was worried that I wouldn't like my own. But as Ethan and I got to know each other, and I fell in love with his cheeky smiles and giggles, I wondered why I hadn't started earlier. Having Ethan was, and still is, the best thing I have ever done in my life.

Fast forward to Christmas last year, and Ethan is a happy, robust little boy on the verge of toddlerhood. He likes watching The Wiggles, playing in the sandpit, sliding down slides, going to Playgroup, eating all sorts of food, drinking Boost Juices, chasing dogs and driving in Cosy Coupes. After some initial competition from Bruce the Moose, Boris the Bear has been selected as Ethan's faithful companion.

It was around this time that we began to notice that something just wasn't quite right with Ethan, but we couldn't really put our finger on what was wrong. He was falling behind the other kids. His language was delayed. He had only just started walking at 18 months, but rather than improving, he seemed to be getting more and more unsteady on his feet. There were behavioural changes as well, but it was hard not to put those down to "the terrible twos". We saw our local doctor, our child health nurse, Ethan's paediatrician, a speech therapist,





and an ear, nose and throat specialist – but without getting any real answers. Then he went off his food, wouldn't sit down properly, and seemed to be in pain.

After a few trips to PMH, Ethan was eventually admitted for a series of tests. The doctors eventually found Ethan's brain tumour during an MRI scan under general anaesthetic. The tumour was about six by seven centimetres in size. It was wrapped around Ethan's brain stem and extended down into his fourth vertebra. It was a rare type of tumour known as ependymoma. It explained everything, but at the time I wasn't really processing what the doctors were telling us. All I could feel was an overwhelming sense of horror, trying to come to grips with this thing in my son's head. It was the worst day of my life. And while all this was happening, Ethan was lying in a cot next to us, momentarily content with the help of some painkillers, watching television.

* * *

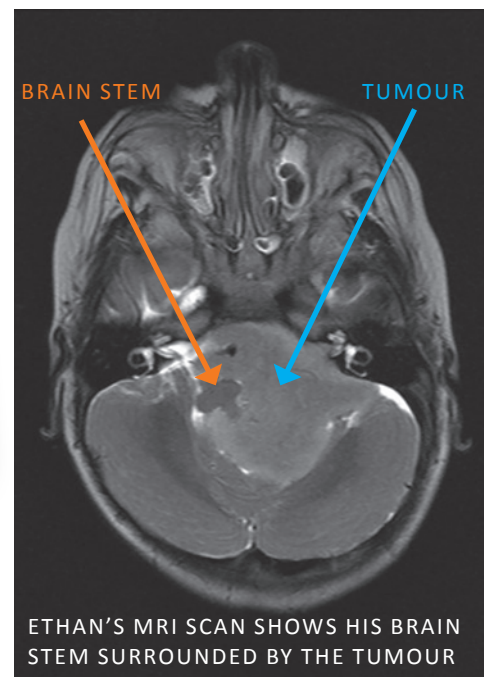
It has been about nine months since Ethan was diagnosed with brain cancer. The first stage of his treatment involved a series of operations at PMH – six in total – to resect his tumour, address the build up of fluid in his brain and prepare him for chemotherapy. The second stage involved about seven weeks of chemotherapy, also at PMH. The third stage involved about seven weeks of radiation therapy at the Peter MacCallum Cancer Centre in Melbourne.

Christie-Lee and I have no doubt that we owe the fact that Ethan made it past the first stage of his treatment and is still with us today to the wonderful skill and judgement of Dr Sharon Lee, a consultant paediatric neurosurgeon at PMH. Dr Lee was able to remove all but about seven millimetres of Ethan's tumour, in circumstances where an error in judgement of only a few millimetres could have resulted in our son's death or serious disability.

* * *

Ethan was eventually placed on an international clinical trial for children with newly-diagnosed

brain cancer and, once he became well enough, he commenced chemotherapy. It was during this time that Christie-Lee and I met the wonderful doctors who work in



PMH's oncology ward, including Dr Nick Gottardo, a senior paediatric oncologist at PMH who also leads the Brain Tumour Program at the Telethon Institute.

Under the effects of chemotherapy, Ethan's beautiful blonde hair – only just regrown after being shaved for his brain surgery – would fall out. The drugs that were used were so toxic that we had to change his nappies with rubber gloves. We worried constantly that he would inhale his own vomit and aspirate, which on occasion he did. There seemed to be an endless process of complications and setbacks.

As Ethan became stronger, and after a few test trips, we were able to take our boy home for a time while he completed chemotherapy as an outpatient. Finally the chemotherapy came to an end and we were overjoyed to learn that scans of Ethan's brain showed no visible tumour. Ethan's strength continued to improve and over several weeks he learnt how to sit, crawl, stand and walk for the second time. I was amazed by his resilience and determination. I am so proud of the way in which he tackled, and reached, each of those milestones.

* * *

It is not an exaggeration to say that Ethan's brain cancer has had a devastating impact on me and my family. I don't have the words



to explain how I cried every day and night for weeks after Ethan's diagnosis, the wrongness of my house without my son (his toys everywhere), the anxious wait during each operation, the horrible feeling each time Ethan went to sleep in my arms before an operation or scan that I was putting him to sleep forever, the helplessness and despair I felt watching my son struggle to lift his arms, his legs or even turn his head, the countless complications and setbacks, the inevitable comparisons I made with other healthy children his age, the loneliness of living apart from my partner of over 11 years for months as we took shifts at the hospital – and, most of all, the confronting knowledge that, for all Ethan's amazing progress to date, his brain cancer could very well come back and if it does his prognosis is poor. I don't accept that these are things that any child, or parent, should have to go through.

* * *

CHRISTIE-LEE, ETHAN AND SHANNON DAVIES



Hope has become an important part of life for Christie-Lee and me. We hope first and foremost that Ethan does not suffer a recurrence of his cancer. Beyond that, we hope that he continues to recover so that one day he can eat and drink with us at the dinner table, can learn the words to say that he loves us, and can play sport with his dad. We hope that he will grow up to be a fine young man (we know he would make us proud) and, where during treatment we have been forced to make compromises on Ethan's behalf, we hope that he can then find it in his heart to forgive us for those compromises.

And we hope that the Scholarship named for Ethan will help fund the research necessary to improve the diagnosis, treatment and prevention of brain cancer for children just like him – so that something positive can come from Ethan's misfortune.

Without the necessary research, we will all continue to see sad stories about Someone Else's Child on the television, or read about them in the paper. It is easy not to worry too much about such stories. But there are families, and children, for whom childhood brain cancer is a sad reality.

Donations to the Ethan Davies Scholarship for Brain Cancer Research can be made at childhealthresearch.org.au

The Ethan Davies Scholarship for Brain Cancer Research

Dr Nick Gottardo, Co-Leader of the Institute's brain tumour research program



Childhood cancer is the second most common cause of death in children and brain tumours are the major cause of childhood cancer-related mortality.

Although survival for children with brain tumours has improved over the last 30 years, survival rates for the past decade have reached a plateau well below that of other childhood cancers, such as leukaemia. Moreover, long-term treatment-related health problems continue to be a major issue for survivors, significantly impacting upon their quality of life.

In Western Australia alone, approximately 20 children are diagnosed with a brain tumour every year.

Therefore, there is a pressing need to develop new and more effective drugs and treatment strategies to improve the outcome for children with brain tumours.

To address this need, the Ethan Davies Scholarship for Brain Cancer Research will provide funding to support a bright, trainee brain surgeon to undertake research in childhood brain tumours within the Brain Tumour Laboratory at the Telethon Institute.

The scholarship will harness the skills of a brain surgeon in order to develop innovative model systems of childhood brain tumours that simulate the disease in children. These models will then be used to test the effectiveness of new drugs and treatment strategies, so that the most promising therapies can be used immediately to treat this devastating cause of illness in children.

Empowering Aboriginal communities the key to suicide prevention

The recently launched *Hear Our Voices Report* into the high rates of suicide in the Kimberley has called for a major change in the way prevention programs are designed and delivered that will both empower and heal Aboriginal communities.

Community members in Broome, Halls Creek and Beagle Bay expressed a clear desire to lead their own healing initiatives, based on the value of life, culture and community.

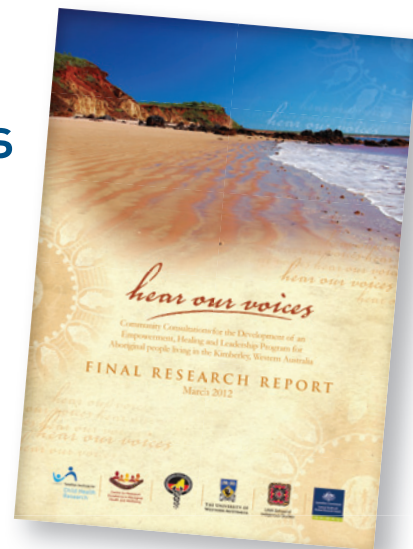
The research was carried out jointly by the Centre for Research Excellence in Aboriginal Health and Wellbeing at the Telethon Institute, the University of Western Australia and the Kimberley Aboriginal Medical Services Council, with funding from the Australian Government Department of Health and Ageing.

Report co-author and study leader Professor Pat Dudgeon said this report goes beyond the statistics and listens to the wisdom within the Aboriginal communities.

“The Kimberley communities want to take ownership of finding a solution. People spoke of the overwhelming need to heal at an individual, family and community level and the need to help young people reconnect with their culture, their family and themselves,” Professor Dudgeon said.

“This fits with evidence we have from other studies and also from Canada that fostering a secure sense of personal and cultural identity is a powerful protective factor against the threat of self-harm.”

To read the full report, go to aboriginal.childhealthresearch.org.au



Congratulations to the Telethon Institute’s Professor Moira Clay on her appointment as President of the Australasian Research Management Society (ARMS).

The society is the peak professional group representing research administrators and managers across Australia and the Asia Pacific region.

Professor Clay, the Institute’s Director of Academic and Research Services takes over the reins at an exciting time with a new strategic plan recently unveiled focusing on the professional development of research managers and administrators and the promotion of the profession of research management.



Institute takes on key role in South Australia

The Telethon Institute has joined forces with the South Australian Department for Education and Child Development to establish the Fraser Mustard Centre in Adelaide, an innovative collaboration aimed at turning research into action.

Named in honour of leading Canadian researcher and former Adelaide Thinker in Residence Dr Fraser Mustard, the Centre aims to improve the development, education, health and wellbeing of Australian children by ensuring that policy makers have first-hand access to world-class research and expertise.

The Telethon Institute’s Sally Brinkman, says this collaboration is about translating research into results.

“It’s a wonderful opportunity to bring our researchers and government decision-makers together so we can use science more effectively to strengthen the link between what is known and what is being done to improve children’s lives,” said Ms Brinkman.

Sally and the rest of the Adelaide-based Institute team will be housed in the Fraser Mustard Centre with policy representatives from the Department.



SALLY BRINKMAN



HIS EXCELLENCY THE GOVERNOR OF WESTERN AUSTRALIA MR MALCOLM McCUSKER WITH MRS TONYA McCUSKER, THEIR DAUGHTER MARY, AND INSTITUTE BIOINFORMATICIANS DR KIM CARTER AND RICHARD FRANCIS

Major funding for WA super science capacity

The new super science of bioinformatics has been given a \$1.3 million boost with the launch of the The McCusker Charitable Foundation Bioinformatics Centre at the Telethon Institute.

The three year funding commitment from the McCusker Charitable Foundation has enabled the Institute to establish a Centre of Bioinformatics which will significantly accelerate research into child health diseases and disorders.

The Institute's Director of Academic and Research Services Professor Moira Clay says bioinformatics is a 21st century super science that has emerged out of the human genome project.

"Bioinformatics underpins our ability to analyse an unprecedented amount of data quickly," Professor Clay said.

"When we are searching for clues about the causes of the disease, it's like searching for a needle in a haystack.

"Our bioinformaticians bring together a huge knowledge in computer and biological sciences to write the programs that can analyse millions of pieces of data. What used to take years, now takes days or weeks."

The launch of the new Centre will mean that Western Australia not only keeps up, but can help set the pace in this exciting field of science.

Thank you to the McCusker Charitable Foundation for recognising the potential of this new science and funding this important capacity for Western Australia.

Bioinformatics is a cutting-edge research field that uses computing technology, mathematics and statistics to answer biological research questions. It allows us to unpack the complex interactions between our genes and the various environmental factors that may influence how genes are switched on (or off) and how they interact within pathways to cause disease.



Congratulations to autism researcher Associate Professor Andrew Whitehouse who was one of just three finalists nationwide for the prestigious 2012 Australian Museum Eureka Prize for Outstanding Young Researcher.

At just 30 years of age, Dr Whitehouse is already recognised as an international leader in autism research. His work spans the areas of behaviour, cognition, neuroscience and genetics, and has made a significant contribution to creating a better life for people with autism and their families.

The category winner was Dr Marie-Liesse Asselin-Labat, a breast cancer researcher from the Walter and Eliza Hall Institute for Medical Research.

Unexpected pattern in the increase in Type 1 diabetes

Who would have thought that weather patterns could be linked to Type 1 diabetes? That's the rather unexpected finding from our Diabetes Research Group who has shown a clear correlation between the incidence of Type 1 diabetes and environmental factors.

Published in the journal *Diabetes Care*, the study looked at data collected over the past 25 years which found interesting patterns of the disease in Western Australia.

These patterns show that, since 1985, the rate of diagnosis peaks once every five years.

Study co-author Professor Tim Jones said that the pattern adds to the current thinking that environmental factors may have a key role to play in the onset of the disease.

"We don't really know what the triggers are, however, the work we have done has shown that more children were diagnosed with type 1 diabetes during the cooler autumn and winter months so we do believe changing climate and cyclical weather patterns may play a role along with the changing incidence of viral infections," said Professor Jones.

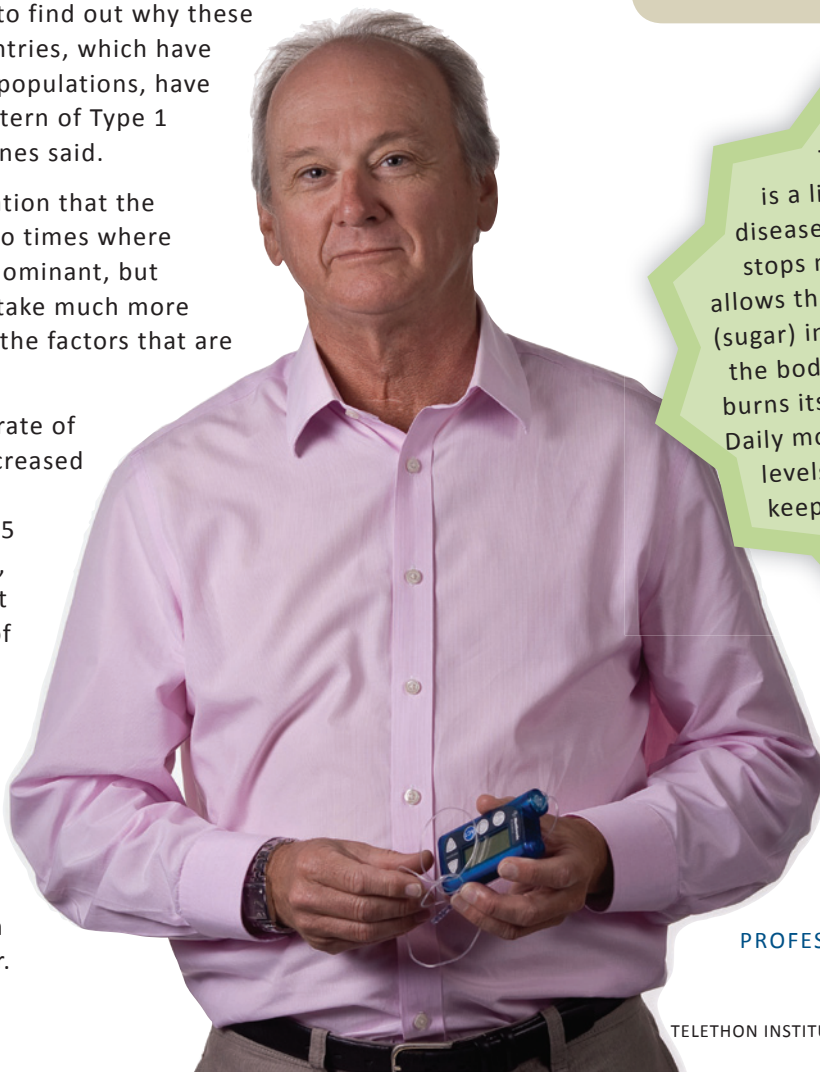
The study also uncovered some striking similarities between the rate and occurrence of Type 1 diabetes in Western Australia and that in parts of Northeast England.

"Our challenge now is to find out why these two very different countries, which have different climates and populations, have an almost identical pattern of Type 1 diabetes," Professor Jones said.

"There is some speculation that the peaks could be linked to times where particular viruses are dominant, but we now need to undertake much more research to determine the factors that are at play here."

The study showed the rate of Type 1 diabetes has increased by more than two per cent per year from 1985 to 2010. In some cases, there was a 20 per cent difference in the rate of the disease between a low incident and high incident year.

With previous peaks occurring in 2002 and 2007, another peak would be expected to show up in data collected this year.



Close the Loop for diabetes

The dream of an artificial pancreas or 'closed-loop system' of managing Type 1 diabetes could be a step closer with a world-first clinical research trial being led by Professor Tim Jones and his team at the Telethon Institute.

This study will determine the effectiveness and safety of the system and conduct the first at-home trials of the system.

This system holds promise not only to improve glucose control and the risk of dangerous hypoglycemia (low blood sugar level) but also to reduce the considerable burden that diabetes and its care places on children and their families.

The research team based at the Telethon Institute and Princess Margaret Hospital for Children is the only research group in Australia involved in this research and is a leading centre globally.

If you would like to support this research, you can donate at: www.everydayhero.com.au/event/closetheLoop

Type 1 diabetes is a life-long autoimmune disease in which the pancreas stops making insulin. Insulin allows the body to process glucose (sugar) into energy and without it, the body can't process food and burns its own fats as a substitute. Daily monitoring of blood glucose levels and insulin injections keep the body functioning.

PROFESSOR TIM JONES

Moira's mountain adventure

Professor Moira Clay, our Director of Academic and Research Services, went on a journey of a lifetime in July, climbing Gran Paradiso as a Telethon Adventurer to raise money for our cancer research. She shares her experience with us.

You can still support Moira through a donation at www.theadventurers.com.au - choose Moira in the list of "Our Adventurers"



I have been back from the Telethon Adventurer's Chamonix Challenge for just over two months and it has been hard to come back down to earth after this life-changing experience.

Our team (Rick Parish, Shawn and Sacha Stronach, Wayne Lamb, Christine Robinson and myself) started this adventure barely knowing each other. We finished as life-long friends having shared an incredible physical challenge with a common bond of winning the war on childhood cancer.

This was my first visit to the Alps and I fell in love with the mountains - so majestic, so beautiful, so quiet, so peaceful.

The highlight was our climb of the highest mountain in Italy, Gran Paradiso. With the exception of Rick (Elliot's dad), none of us had "climbed a mountain" before (Bluff Knoll doesn't count!!). We had to deal with crampons (attachments for our boots to improve mobility on snow and ice), very heavy boots, backpacks, harnesses and ice axes! But we took it all in our stride.

My climbing partner was Sacha. She and I were teamed up with head guide Paolo.

Climb day was massive! We started the day at 3:45am

and didn't return until just after 1pm. Sacha and I had three goals - to see the sun rise, to get to the glacier and to reach an altitude of 3000m. Along the way we had picnics on the glacier of parmesan cheese and chocolate biscuits! Sacha and I achieved all of our goals, climbing to 3300m before making the decision to return to the hut by traversing the base of Gran Paradiso and Piccolo Paradiso. We returned to the hut exhausted and exhilarated. We then witnessed Rick return from his journey to the summit of Gran Paradiso (4061m). It was a privilege to see this proud and strong man finish his epic journey and know that he had Elliot with him the whole way.

It was the best day of my life!

I will go back. I will reach the summit of Gran Paradiso - for Elliot and for all kids now and in the future with childhood cancer. I am proud to be a Telethon Adventurer and proud to be a medical researcher. Together, we will beat this disease and win this war.

My next adventure - the Melbourne Half Marathon. Thanks to the Adventurer's I am doing things that I never thought possible.

Moira



Folate cuts risk of brain tumours

A national study led by the Telethon Institute has found that folic acid supplements before and during pregnancy reduce the risk of childhood brain tumours.

The national case-control study collected data between 2005 and 2010 to investigate nutritional, environmental and genetic risk factors for childhood brain tumours.

Study leader Professor Elizabeth Milne said while other studies had investigated the impact of multivitamin supplements, this research project was the first to separate out different types of supplements, including folic acid and other B group vitamins.

"Our study found that folic acid use before pregnancy reduced the risk of childhood brain tumours by around 30%," Professor Milne said.

"There also appeared to be some effect when taken after conception, but it was not as strong as when taken before pregnancy.

"We know this is biologically plausible, as a mother's store of folate is used rapidly from conception in keeping DNA healthy as it replicates and in fuelling the

rapid development of brain cells in the fetus."

335 mothers of children with brain tumours participated in the study along with 1363 mothers of healthy control children, randomly recruited from around Australia.

Professor Milne cautioned that the results did not mean that a lack of folate had caused brain tumours in children in the study.

"What we are looking at here is reducing overall risk in the population and these findings cannot be extrapolated to an individual level. Indeed, many case mothers took folic acid," she said.

"There are likely to be many causes of childhood brain tumours and we are hopeful that folic acid

supplements may be one way to reduce the risk as well as providing other established benefits to the developing baby."

The study was funded through a grant from the National Health and Medical Research Council.



PROFESSOR
LIZ MILNE
WITH DAISY

Congratulations to two of our outstanding students who each won their university final of the Three Minute Thesis (3MT) competition.

Lauren Hollier won the University of Western Australia competition and Kitty Foley won the Edith Cowan University final. Both will now head to Queensland to compete in the Trans-Tasman 3MT competition in October.

The 3MT competition is an exercise in developing academic and research communication skills, with students set the challenge of giving an engaging and dynamic talk on their thesis topic and its significance, in language appropriate to an intelligent but non-specialist audience, in just three minutes.

Lauren's PhD research is looking at the link between testosterone and language delay in boys. Kitty is doing her PhD on how young people with disabilities, specifically intellectual disabilities, transition from school to adulthood.



LAUREN HOLLIER
AND KITTY FOLEY



Call for mental health support for asthmatic kids

Young children with severe or persistent asthma are at higher risk of developing many common mental health problems.

The research, a collaboration between researchers at the Telethon Institute and Columbia University in New York, has been published online in the top international journal *Psychological Medicine*.

Telethon Institute psychologist and report co-author Dr Monique Robinson said the findings build on previous studies which have found that as the severity of asthma increases, so do problems such as anxiety and depression.

“We looked at whether the link was present for mild as well as severe asthma, and whether the link depended on asthma symptoms being persistent throughout childhood as opposed to asthma that lessens as the child grows older.”

The study used Western Australian data from the Raine Study to determine whether children who had asthma at age five were vulnerable for later mental health problems through to the age of 17 years.

The researchers found that having asthma at age five was associated with a higher vulnerability for the later development of problems such as anxiety, conduct problems and affective problems.

Dr Robinson said that it probably wasn't asthma itself that caused mental health problems, but rather the added challenges for the child of dealing with a chronic disease.

She said the study supports the need to assess psychological functioning as part of routine care for children with a chronic or severe disease, including for those with severe and persistent asthma throughout childhood.



Findings snapshot

Severity of asthma

- Children with mild asthma were no different to those without asthma in terms of mental health outcomes
- Children with severe or persistent asthma were seen to be the most at risk of future mental health problems

Asthma over time

- Children who had asthma early in life but grew out of it by later childhood were no different to those without asthma
- Children whose asthma developed later in childhood were at risk for internalizing problems such as anxiety, depression and somatic problems but not externalizing problems like behavior issues
- As children got older, the likelihood that they would experience a mental health problem decreased, perhaps indicating that they are better able to adjust to their asthma without experiencing psychological difficulties

New Building Project

Construction of the Telethon Institute's new home, within the New Children's Hospital, continues to take shape with site works progressing at the QEII Campus.

Our new building project team, led by Manager Edward Doherty, is currently hard at work planning the detailed design phase of the project. Edward joined the Institute in August and brings with him an extensive background in construction management on a range of health-related projects.

The new-look Telethon Institute will be housed in state-of-the-art premises with improved space and access to leading-edge technology and research facilities. Its location within the children's hospital will enable our world-renowned researchers to work alongside some of this state's most innovative and progressive child health clinicians.

If you'd like to keep up to date with the construction work you can visit the new building project page on the Institute's website at childhealthresearch.org.au/about-us



Research leadership program

The Telethon Institute's Research Leadership Program recently won the Australasian Research Management Society 2012 Award for Excellence in Research Management Innovation.

This forward-thinking program aims to nurture our next generation of Institute leaders through leadership training, professional development, peer support, workshops, mentoring and networking. The program is aimed at outstanding early to mid-career researchers to develop their skills to help them lead the Telethon Institute in the years to come.

In 2012/13, eight researchers who demonstrate outstanding leadership potential will participate in the program which has already included a mentoring session with leading businesswoman Therese Rein.

Participating researchers in 2012/13

Assoc Prof Kim Carter	Dr Shelley Gorman
Dr Saskia Decuyper	Dr Sarra Jamieson
Dr Jenny Downs	Dr Alex Larcombe
Dr Emma Glasson	Dr Monique Robinson



MEETING
THERESE REIN

LIFE AT 7

We've laughed and cried with this special group of children and families, as film crews have delved into their lives to see how children grow and develop in ordinary and extraordinary circumstances. Now the kids are seven and the Life Series is back, giving us an insight into their temperaments and personalities.



LIFE AT 7
Tuesday 16 & 23
October, 8:30pm
on ABC1

Winthrop Professor Steve Zubrick provides commentary throughout the documentaries which have been following this specially selected group of children from their first year of life.

The Life Series is made in conjunction with a long-term study - The Longitudinal Study of Australian Children ('Growing Up in Australia') - in which 10,000 children have been placed under a sociological and scientific microscope.

Booster to prevent pneumococcal disease

Young children can receive extra protection against pneumococcal disease with the improved Prevenar 13[®] vaccine, which protects against 13 pneumococcal strains, six more than the previous Prevenar[®] vaccine.

Children are currently vaccinated against pneumococcal disease at two, four and six months of age but some older children would not have received the new vaccine. A single dose of Prevenar 13[®] is all that is required to boost a child's immunity.

Mr Bruce Langoulant, Chairman of the Institute-based Meningitis Centre, knows first-hand how pneumococcal disease can be a very serious illness. His daughter Ashleigh contracted pneumococcal as a toddler and has been left with permanent disabilities.

"It not only causes mild infections such as middle ear and sinus infections but also more serious infections such as meningitis, pneumonia and septicaemia," Mr

Langoulant said.

"Ashleigh developed pneumococcal meningitis and suffered severe brain damage resulting in cerebral palsy, epilepsy and deafness. Today she is a young adult but she's still never walked or talked."

Mr Langoulant encouraged all parents to have their children immunised with the booster vaccine to ensure greater protection.

See your General Practitioner or community immunisation provider for more information.



Officers cross Nullarbor for brain cancer research

WA Police Commissioner Karl O'Callaghan has led more than 20 police officers on a week-long journey across Australia to raise money for the Institute's brain cancer research.

The Wall to Wall Ride began at the Police Academy in Joondalup on September 7 with officers riding to Norseman before crossing the Nullarbor and finally arriving at the National Police Memorial in Canberra on September 15.

Commissioner O'Callaghan said the ride would raise vital funds for research into children's cancer with each officer taking annual leave and raising \$5000 in support of the Commissioner's Bright Blue charity.



COMMISSIONER O'CALLAGHAN WITH RIDERS AT THE POLICE ACADEMY IN JOONDALUP

INFECTIOUS DISEASE

A good reason to vaccinate

The arrival of a new baby is an exciting and joyous time and it was no different for the Yates family when Morgan was born.

But at just two weeks old, the Yates family got the fright of their life when Morgan became very sick. He was rushed by ambulance to Princess Margaret Hospital, his little body turning blue on the journey. He was given oxygen to help him breathe and was hooked up to a heart monitor. After two weeks in hospital he was discharged.

What made Morgan so sick was whooping cough, a highly contagious bacterial disease which can be very serious for young babies. Morgan's mum Jacqueline contracted the disease in the hospital when Morgan was born, passing it to him in his first few days of life.

In Australia, hospitalisations and deaths from whooping cough do occur in newborn babies because the vaccine that can protect against the disease isn't given to babies until they are between six and eight weeks old.

Our Vaccine Trials Group has been conducting a study to see if we can protect newborn babies against whooping cough by giving them the vaccine at birth.



TRAVIS AND MORGAN YATES

Today, Morgan is a bubbly two-year-old who loves to swing his cricket bat. He's also part of our whooping cough vaccine study as a 'control' participant meaning he only received the Hepatitis B vaccine at birth (babies normally receive this vaccine) and not the whooping cough vaccine as well that some other babies in the study got.

His dad Travis encourages all parents to vaccinate their children so they don't have a similar experience.

A whooping cough epidemic began in Western Australia in mid-2011 with a total of around 4000 cases notified last year.

Source: WA Health Dept