

# UNDER THE MICROSCOPE

NEWSLETTER OF THE TELETHON INSTITUTE FOR CHILD HEALTH RESEARCH



Telethon Institute for  
**Child Health  
Research**

2012 - ISSUE 4

[childhealthresearch.org.au](http://childhealthresearch.org.au)

**WISHING YOU  
A SAFE, HAPPY  
AND HEALTHY  
FESTIVE SEASON**



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**Vitamin boosts  
teen mental health**

**IVF risk reduces**

**Tragic loss: Caitlyn's family  
search for answers**

**...and more**

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## Season's greetings

It's about five months since I started here as Director. In some ways, the time has flown, but I can't believe all that has happened in such a short time.

To me, that's a good thing and a sign of just how easy it has been for me, and my family, to settle into Perth and life at the Telethon Institute.



There has been no such thing as easing slowly into the job. The staff and students made it clear from the start that they were excited and ready to develop a strategic vision and plan that would shape the next five years. We've had an intense period of consultation, both internally and externally, and I look forward to sharing the draft version of that plan with you— and to hear your feedback and ideas.

I've also experienced my first Telethon. While I had heard a lot about it, I have to say it exceeded my expectations in terms of size, community engagement and outright entertainment. It really is an extraordinary event that is unique to Western Australia and a wonderful partnership for the Institute. Through Telethon we not only have a very powerful connection to people throughout the state, we also have a very strong responsibility to ensure that the research we do makes a real difference to the community that we serve.

You may have also noticed that siteworks have begun on the new children's hospital project at the QEII Medical Centre in Nedlands. Thanks to great financial support from the State and Federal Governments, our new Institute home will be

part of that project and we are now in a very intense phase of developing our building brief.

WA's new children's hospital presents a terrific opportunity to bring together many parts of the child health sector – clinicians, researchers and educators under the one roof. I firmly believe that this will create collaborations and critical mass that will also extend beyond the perimeter of the QEII campus. Indeed, I see it as a hub from which outreach services can continue to build throughout the state. We are expecting to move into our new facilities in the hospital at the end of 2015 – so the clock for design is definitely ticking!

So with a busy and exciting year ahead for all of us, may I take this opportunity to thank you for your support over the past year and wish you a restful holiday break.

*Jonathan*

Professor Jonathan Carapetis  
Director

**STOP PRESS**  
**Congratulations**

to our valued supporter  
Mr Kerry Stokes AC who  
was named WA  
Australian of the Year



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under the  
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CELEBRATING THE FINAL TALLY: RICK PARISH, JONATHAN CARAPETIS, RICK ARDON, SUSANNAH CARR, BASIL ZEMPILAS, MARIO D'ORAZIO AND KERRY STOKES. © THE WEST AUSTRALIAN

## OUR SUPPORTERS

# Generous West Aussies help Telethon shine

Expectations were high for Telethon 2012, but no-one anticipated just how successful this iconic event would be.

When the final tally was announced on Sunday night November 11, a record \$16.8 million had been raised, thanks to the generosity of West Australians.

The total reflected a year of fundraising events, auctions, government and corporate donations, and pledges from all walks of life and from all parts of the state.

For more than 26 hours Channel Seven's live TV broadcast entertained, enthralled and inspired people to get behind Telethon and to support the many organisations that will be helped by the money raised.

The Telethon Institute for Child Health Research is honoured to be one of Telethon's main beneficiaries, along with Princess Margaret Hospital and many other child health related organisations.

Telethon's support underpins much of the ground-breaking work we do and plays a significant role in helping the Institute deliver on its promise of making a difference to the health and wellbeing of kids in WA.

An added bonus at this year's Telethon was the State Government's announcement of \$1 million for a new Telethon/New Children's Hospital Research Fund, which will be matched dollar for dollar by Telethon, equating to \$2 million extra funding for child health research in WA.

### Exceeding all expectations

For our new Director Professor Jonathan Carapetis, this year's Telethon was his first and it proved to be an 'extraordinary experience'.

Thrust into the whirlwind that is the Telethon weekend, Professor Carapetis tried his hand at just about everything. He featured as a guest reporter on Channel Seven news, spreading the word about some of our wonderful research projects in the lead up to Telethon.

He also made his panel debut alongside some of WA and Australia's biggest TV stars and was part of the final big announcement when the total of \$16,805,622 was read out at the completion of this epic event.

Professor Carapetis also visited the Telethon Sunday Times Phone Room to personally thank the many volunteers who gave up their weekend to receive and process the Telethon donations.

**Thanks Telethon and thanks WA for your support.**



COURTESY VIVA PHOTOGRAPHY

# National funding success for Institute projects

Good news for the Institute with respiratory health and diabetes receiving a boost in a recent grant round from the National Health and Medical Research Council (NHMRC).

Seven new research projects received funding totaling \$3.46 million from the Federal Government allowing our researchers to delve deeper into the causes of a range of chronic conditions affecting children.

Five of the projects will focus on respiratory-related research and two will focus on research into Type 1 diabetes. Congratulations to the research teams to be led by Chief Investigators Professor Pat Holt, Associate Professor Graeme Zosky, Dr Hannah Moore, Dr Anthony Kicic, Dr Deborah Strickland and Professor Timothy Jones.

In addition to the project grants, researchers at the Telethon Institute are also Chief Investigators on a further eight collaborative projects ranging from potential new therapies for autism to tracking long term outcomes for children born by IVF.

## In Focus

With respiratory infections, asthma and allergies among the major causes of children being admitted to hospital, research into these areas is a key focus for the Telethon Institute. Here we look in more detail at three of the seven projects that will kick off in 2013 under the NHMRC grants.

Congratulations to two of our outstanding young researchers who have been awarded Early Career Fellowships from the National Health and Medical Research Council. The Fellowships were awarded to clinical psychologist and mental health researcher Dr Monique Robinson and environmental health researcher Dr Gavin Pereira.

## Unlocking the link

Investigating a link between chronic lung disease and low Vitamin D levels will be the focus of Associate Professor Graeme Zosky and his team as they prepare to embark on a research study that will determine if poor vitamin levels are harming the development of healthy lungs in the womb and if this impact continues from birth through to adulthood.



The study will also look at the timing of vitamin D deficiency during development to determine whether targeted treatments or intervention may assist with better lung growth and performance.

## Answering questions about asthma

Reducing the airway damage caused by asthma attacks in children is at the centre of a three year research project to be led by Dr Anthony Kicic. The study will focus on the body's ability to repair damaged airway cells and why this doesn't happen well in asthmatic children. This project aims to identify the key driving factors of the body's natural repair system to find a way to stimulate this in young asthma sufferers and improve their lives.



## Targeting chest infections

Identifying and preventing serious chest infections in children will be at the core of another of the Institute's new research projects due to begin in mid-2013. A project team led by Dr Hannah Moore will delve into the causes of acute lower respiratory infections such as influenza, pneumonia, bronchiolitis and whooping cough, and the effectiveness of vaccines to combat them. The study will look at trends in the different types of chest infections in children from 1996 until 2011 with the hope of being able to identify and target causes of chest infections in WA children and help develop effective awareness and treatment options.





# Telethon Adventurers to give \$1.8m

In only their second year of operation, The Telethon Adventurers have achieved an extraordinary result - raising \$1.3 million in 2012. A further \$500,000 gift took the total for distribution to \$1.8 million.

Founder and Chair of The Telethon Adventurers, Rick Parish, said they celebrated a very successful second year of their partnership with Telethon and the Telethon Institute.

“The Telethon Adventurers achievement was an outstanding result particularly given that our total costs incurred for the year was less than \$14,000!” said Rick.

“The people involved in our adventures and fundraising activities continue to amaze me with their spirit, generosity, sense of community and involvement.

“Hope really does inspire change, but ACTION is the key...

something we are very good at!

“The Telethon Adventurers really are making a difference - one adventure at a time!”

Rick thanked everyone involved in supporting their fundraising work for childhood cancer research in 2012!

Dr Nick Gottardo, co-lead of the Brain Tumour Research at the Telethon Institute, said that investment by The Telethon Adventurers in both people and the latest technology was enabling them to forge ahead with their life-changing research.

Some of the amazing adventures undertaken in 2012 are highlighted below.

If you would like more information or would like to become a Telethon Adventurer visit:

[www.theadventurers.com.au](http://www.theadventurers.com.au)



## August 2012 - Tour for a Cure USA

Eleven Adventurers took an iconic convoy of Harley Davidson's and Mustangs from Las Vegas to Hollywood, taking on the heat of Death Valley and enjoying the sights of Mammoth Lakes and San Francisco and raised \$120,371.50.



## July 2012 - Chamonix Challenge

Six Adventurers took on the challenge of climbing one of Italy's highest mountains, Gran Paradiso. Telethon Adventurers founder, Rick Parish, was the only climber to summit while the other adventurers reached a more than admirable altitude of 3300m amidst snow and hail storms and raised \$119,321.40.

## October – November 2012 - Woolworths Ride for Elliott

The 2012 Woolworths Ride for Elliott started in Perth on October 27. The 12 riders travelled south through to Esperance and then back to Perth through Kalgoorlie before crossing the line at the Convention Centre on Telethon Weekend. They covered 2,100 km in 14 days and raised just over \$500,000.



## Vitamin B plays crucial role in good mental health

We all know that eating lots of fresh fruit and vegetables is nutritionally good for children, but did you know it's also vital for their good mental health?

A research study led by the Telethon Institute has shown that children and adolescents with a diet high in B-vitamins, traditionally found in fresh, healthy foods, are less likely to experience mental health and behavioural problems than those whose diet is low in B-vitamins.

Published recently in international journal *Preventive Medicine*, the study looked at the relationship between B-vitamin intake and the presence of both externalising and internalising mental health and behaviour problems in adolescents at 17 years of age. Externalising problems are those that are usually directed towards others such as anti-social behaviour, bullying, aggression and defiance, to name a few. Internalising behaviours include depression or becoming withdrawn.

Previous studies have shown that externalising behaviour developed in adolescence is usually related to a higher risk of offending and substance abuse later in life, so this study is extremely important in identifying any influencing factors that may contribute to this behaviour.

According to researcher Carly Herbison the findings reinforce the importance of B-vitamins in a child's diet and how a vitamin rich diet can have a really positive impact on their mental health and behaviour throughout their lives. "B-Vitamins play a crucial role in the body's production of neurotransmitters, such as serotonin,



CARLY HERBISON  
AND WENDY ODDY

which modulates human behaviour and can contribute to feelings of wellbeing and happiness" she said.

When it comes to what foods are best for healthy B-vitamin levels the study's senior author and head of the Telethon Institute's nutritional research Professor Wendy Oddy has some simple advice.

"Improving what our children eat and ensuring they are getting essential B-vitamins from foods such as nuts, seeds, whole-grains, legumes and fruit and vegetables is now more important than ever," said Professor Oddy. "This research is even more proof why kids need to have a good, balanced, nutritional diet so that we are giving them the best chance at good mental health and wellbeing."

The research was funded by the Cardiovascular Disease and Depression Strategic Research Program and used nutritional and mental health data collected from participants in the Western Australia Pregnancy Cohort.

## Faculty retreat

The Institute held its inaugural Faculty Retreat in November. The Faculty is the senior research leadership group of the Institute, providing strategic advice to our Director, Professor Jonathan Carapetis.

The retreat provided the first opportunity for the Faculty to meet as a group, discuss the Institute's future directions and meet with members of our external Scientific Advisory Committee (chaired by Board Member Professor Anne Kelso AO).

You can read more about the Faculty members at [childhealthresearch.org.au](http://childhealthresearch.org.au)





## Good news for assisted pregnancies

All parents-to-be hope for a healthy baby. For couples using Assisted Reproductive Technology (ART) to conceive, new research from the Telethon Institute has uncovered a significant decline in the risk of birth defects amongst WA children born using these techniques.

The study, published in the journal *Obstetrics & Gynecology*, showed a large decrease in the rate of birth defects between a similar Telethon Institute study carried out using data from the mid-90's.

The more recent study, which included data up until 2002, showed the risk of birth defects amongst single babies born using ART in WA dropped from 10.9% between 1994 and 1998 to 7.5% between 1998 and 2002, compared with a rate of 5.2% in the naturally conceived group.

Twins born via assisted pregnancies also showed a similar pattern of decreasing risk from the first time period to the second.

Institute researcher Michele Hansen said the study suggests an encouraging decline in major birth defect prevalence in children born as a result of assisted pregnancies in Western Australia.

"Changes to clinical practice may be largely responsible with improved culture media and better culture and storage conditions leading to the transfer of 'healthier' embryos," she said.

"Whilst our study does still show that babies born using Assisted Reproductive Technology remain at a higher risk of birth defects, couples seeking to use these treatments can be reassured that the vast majority of babies are born healthy and do not have a birth defect."

Ms Hansen said that providing parents with as much information as possible so that they can make informed decisions is important. She encouraged couples to talk to their specialist about the prevalence of birth defects in ART pregnancies.

The Telethon Institute research team hope to continue monitoring birth defects to evaluate the impact of more recent changes to ART laboratory practice such as extended blastocyst culture and vitrification (rapid freezing of eggs and embryos).



Congratulations to PhD student Lauren Hollier who was runner-up in the National 3 Minute Thesis final held in October. Well done Lauren!

## National focus on FASD welcomed

Telethon Institute researchers have thrown their support behind the recommendations of a national Inquiry into Fetal Alcohol Spectrum Disorders (FASD).

Professor Carol Bower, who heads the Institute's Alcohol and Pregnancy research group, says the recommendations are a significant step in ensuring the best start in life for our children by better educating the whole community that no alcohol during pregnancy is the safest choice.

The Inquiry found that there is little awareness of FASD or the risks of maternal alcohol consumption, in both the wider community and among health professionals. There was overwhelming evidence that women, men, families and communities need to be aware of the great risks of drinking alcohol during pregnancy.

Some of the recommendations include:

- immediate roll-out of a national FASD diagnostic and screening tool
- health warning labels on alcoholic beverages
- a public awareness campaign that promotes not drinking as the safest option when pregnant or planning a pregnancy
- educational awareness materials to raise awareness of FASD
- obtaining and recording consistent data on maternal alcohol consumption
- supporting community-led alcohol management strategies
- management services for pregnant women with alcohol dependency
- an independent study into the marketing of alcohol to young people in Australia.

For more information on the Inquiry and its recommendations, search for "FASD" at [www.aph.gov.au](http://www.aph.gov.au)

Find out more about our research at [alcoholpregnancy.childhealthresearch.org.au](http://alcoholpregnancy.childhealthresearch.org.au)

## Jessica's fight for life

Many people aren't aware that infectious disease is still the most common reason that children are admitted to hospital. For six-year-old triplets Jessica, Hannah and Chelsea, catching the 'flu turned into a fight for life for one of them.

During winter this year, the sisters contracted the 'flu. While Hannah and Chelsea were able to fight off the infection, Jessica developed pneumonia and became very sick. Her right lung collapsed and she spent six weeks in hospital.

Today, Jessica is able to run around with her siblings again but she tires easily, her right lung is scarred and only functions at 10 per cent.

The recently released Prevenar 13® vaccine now provides protection against the strain of bacteria that caused Jessica's pneumonia. See your local GP or child health nurse for more information.



TRIPLETS JESSICA, HANNAH AND CHELSEA

## OUR SUPPORTERS

### Research into unexplained childhood deaths

Caitlyn Anne Hoble was a healthy and happy three-year-old until 36 hours before her death in July 2000.

After a full autopsy the cause of her death was recorded as "undetermined".

Caitlyn Anne's parents, Wendy and Mike, established The Caitlyn Anne Trust to raise funds to support families impacted by an unexplained death and raise funds for research.

After many years of fundraising, Wendy and Mike have donated the Trust to the Telethon Institute to fund a PhD student who will work with Professor Fiona Stanley to gain a greater understanding of unexplained childhood deaths.

Wendy and Mike, in partnership with the Telethon Institute, will continue to raise funds in memory of Caitlyn Anne for further research.

For more information and to support the Trust please call the Institute on 9489 7777 or make an online donation at:

[www.everydayhero.com.au/event/caitlynannetrust](http://www.everydayhero.com.au/event/caitlynannetrust)



Ever wondered what it would be like to be a student at the Telethon Institute for Child Health Research?

We've produced a new video about student life. Narrated by our Director Jonathan Carapetis, it features some of our outstanding students and supervisors and highlights all the wonderful things about conducting a Masters or PhD degree at the Institute.

You can check it out at:

[childhealthresearch.org.au/study-with-us](http://childhealthresearch.org.au/study-with-us)



Congratulations to Dr Lea-Ann Kirkham from our Vaccine Trials Group who recently received a WA Young Tall Poppy Award.

The Awards recognise the recipients' research achievements as well as their capacity and commitment to communicate science and its significance to the community.