UNDER THE MICROSCOPE

NEWSLETTER OF THE TELETHON INSTITUTE FOR CHILD HEALTH RESEARCH

Telethon Institute for Child Health Research

2013 - ISSUE 2

childhealthresearch.org.au

Ethan's gift to Dr Sasha

Inside this edition

Glue ear breakthrough

Testing an App for autism

Meet our Research Strategy Leaders

Plus the latest research in vitamin D, mental health, education and more...

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Introducing our new Research Strategy Leaders

The newly-created Research Strategy Leader positions are a core part of implementing our Strategic Plan. They will be part of the Institute Leadership Team that will drive our research strategy.

The selection criteria were simple. We wanted people who not only do outstanding research but are great strategic and innovative thinkers with strong leadership and communication skills. People who could take an overall view of what will work best for not only our organisation, but to deliver our vision to the kids and families of WA and beyond.

After an exhaustive process, we are very pleased to introduce our Research Strategy Leaders. Congratulations to them all!

PROFESSOR GRAHAM HALL

Graham completed his PhD at the Telethon Institute in 2000 before working in the University Children's Hospitals in Zurich and Bern in Switzerland as well as Princess Margaret Hospital in Perth. He joined the Telethon Institute in 2010 as the Head of Paediatric Respiratory Physiology where his research interests include lung growth and development, lung function, cystic fibrosis and asthma.

ASSOCIATE PROFESSOR ROBYN LUCAS

Robyn Lucas is a medical graduate with a PhD in epidemiology. She will be joining the Institute in 2014 from the Australian National University in Canberra. Robyn's research examines the risks and benefits of sun exposure, with a particular focus on immune function and autoimmunity, and unravelling the possible independent effects of sun exposure and vitamin D.

WINTHROP PROFESSOR SUSAN PRESCOTT

Susan Prescott is a Winthrop Professor in the School of Paediatrics and Child Health at the University of Western Australia and a Paediatric Allergist and Immunologist at Princess Margaret Hospital in Perth. Susan also runs a dynamic interdisciplinary clinical and laboratory research group with a particular focus on the developing immune system.

DR STEPHEN STICK

Dr Stick is a career clinician and clinical researcher. Since 2007, Steve has led the Health Department of Western Australia Respiratory Health Network, responsible for the translation of evidence-based models of care into state-wide health policy. Steve's research interest is in cystic fibrosis looking at preventing early lung damage in kids with the disease.

Telethon Institute for Child Health Research

under the MICROSCOPE

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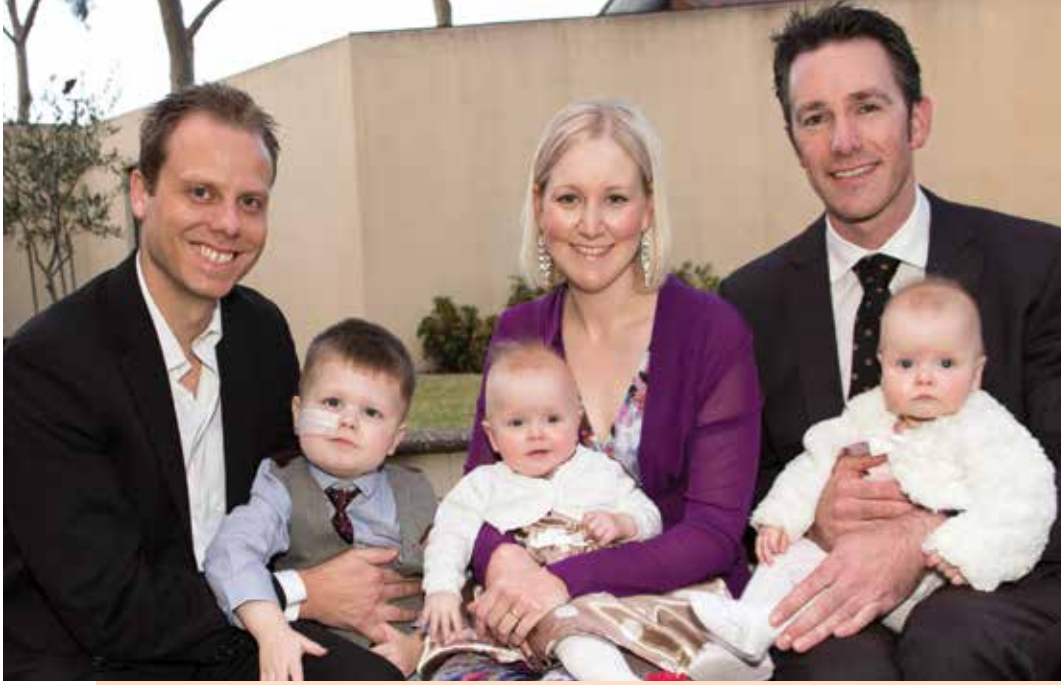
COVER: ETHAN DAVIES MEETS DR SASHA ROGERS, RECIPIENT OF THE ETHAN DAVIES SCHOLARSHIP FOR BRAIN CANCER RESEARCH

Super-Ethan meets Sasha

One of the first questions Christie-Lee and Shannon Davies asked doctors when their son Ethan was diagnosed with brain cancer was what could they do to help other children and families facing this devastating diagnosis.

Two years on, their selfless act has resulted in the establishment of the Ethan Davies Scholarship for Brain Cancer Research to support a neurosurgeon to undertake innovative research in the Institute's brain tumour laboratory.



DR SASHA ROGERS (RIGHT) MEETS THE DAVIES FAMILY FOR THE FIRST TIME - SHANNON, ETHAN, CHRISTIE-LEE AND TWINS JESSICA AND CHARLOTTE

Dr Nick Gottardo, one of Ethan's doctors and co-leader of the Institute's brain tumour research program, said the decision to fund a neurosurgeon could mean new progress in the fight against childhood brain tumours.

"Given the importance of surgery in treating brain cancer we thought it was time to get a neurosurgeon into the research field and hopefully, in the long term, make neurosurgeons for kids' brain cancer redundant," Dr Gottardo said.

After a long search, the Telethon Institute awarded the scholarship to Dr Sasha Rogers, a rising star in paediatric neurosurgery.

Christie-Lee and Shannon met Dr Rogers for the first time at this year's annual scholarship fundraising event and said they couldn't be happier with the choice.

"I don't think they could have picked a better person," said Christie-Lee. "We are thrilled. What's really exciting for us is that he is a dad with a young child so we can relate to him not just medically, because of Ethan's condition, but as a father as well."

Dr Rogers said getting to know the Davies family and learning their story has been a great privilege.

"Christie-Lee and Shannon are such inspirational people," he said. "I have a son of my own so I can imagine the emotional nightmare they have gone through these past few years. I don't know how they have managed to show so much strength and perseverance and remain so positive throughout the ordeal."

"I'm very excited to join the research team at the Telethon Institute," Dr Rogers said. "I believe strongly that if you want to attack a disease on a case-by-case basis you choose medicine, but it you want to tackle the cause of the disease and try and eliminate it forever, you choose research."

Dr Rogers will join the Institute next year and will be working on improved diagnosis and treatments for kids with brain cancer.

Support Ethan's scholarship

Last year, $150,000 was raised for the Ethan Davies Scholarship.

This year's fundraising event raised more than $16,000 towards another year of the scholarship.

You can contribute through an online donation at: **ethandaviesscholarship.com.au**

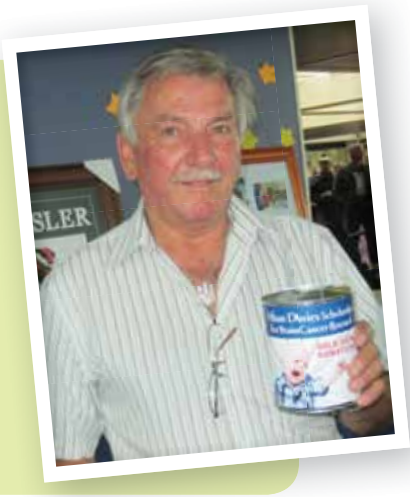
Or call us if you'd like to hold a fundraising event - 9489 7779.

A day at the races for Ethan

John Wychowanko from Northgate Motors had no connection to the Davies family when he heard their story on the radio. He just knew he wanted to help. He called the radio station, was put in touch with the Davies family, and the rest they say is history.

John planned a fundraising 'Day at the Races' at Belmont Racecourse on August 10 and invited friends and colleagues to join him. Through donations, a raffle and auction, John raised $13,076.10 towards the Ethan Davies Scholarship for Brain Cancer Research. John even arranged for one of the races to be named after the scholarship.

Thank you John for your amazing generosity!



INFECTIOUS DISEASE

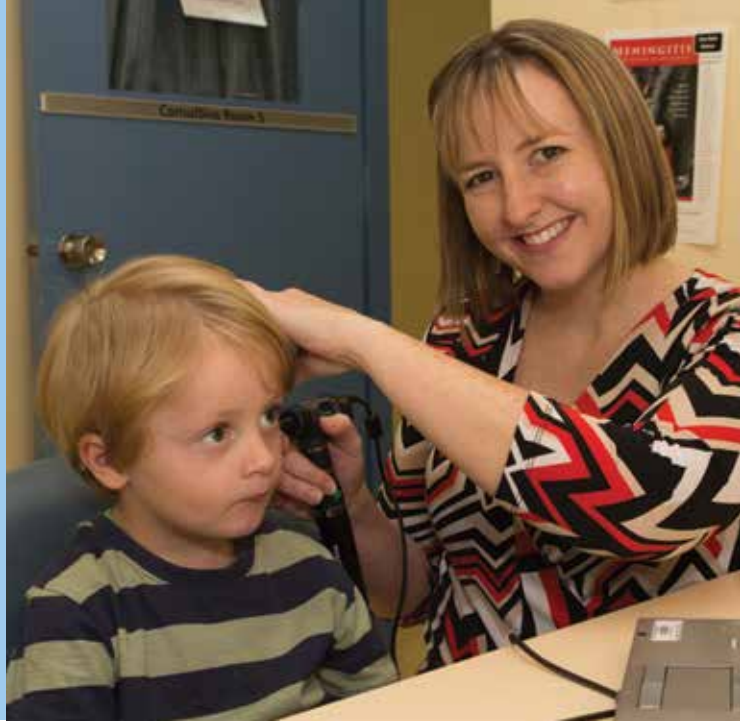
Glue ear breakthrough

During her PhD research, the Institute's Dr Ruth Thornton had what can only be described as a 'Eureka moment'!

She noticed that the sticky liquid found in the ears of children suffering from middle ear infections was similar to the thick mucus found in the lungs of people with cystic fibrosis.

For those with cystic fibrosis, a drug called Dornase alfa is used to break up this thick sticky fluid. Ruth's Eureka moment came when in the lab, she put the same drug into the sticky middle ear fluid and to her surprise, it broke up the fluid.

Her discovery could help the many children who suffer from recurrent middle ear infections, reducing the need for surgery and antibiotics and helping kids to hear properly.



Middle ear infection, or otitis media, is one of the most common childhood complaints. It occurs in the space behind the eardrum where fluid collects and bacteria can cause painful infections. For some children, this fluid doesn't go away and over time becomes like egg white, leading to "glue ear". It can cause hearing problems, learning difficulties and speech delay.

"For kids with glue ear, bacteria hide in a sticky glue made up of big nets of DNA from the child's own immune system," explains Ruth.

"The bacteria can use these DNA nets to hide in and stay in the ears. They also use this to form these biofilms which protects them from antibiotics and from the children's immune responses."

Ruth says these DNA nets are similar to what happens in the lungs of people with cystic fibrosis, where a treatment known as Dornase alfa is used to break up this sticky DNA.

"I decided to try the Dornase alfa in the ear fluid and amazingly, it cut up the DNA nets," she says.

Ruth and her colleagues are now trialling this treatment in the ears of children when they have grommets inserted.

"Grommets are tiny ventilation tubes inserted into the ear drum to help fluid drain away," she explains. "Some kids who get chronic, ongoing ear infections will need surgery to have grommets inserted."

"During the surgery, the children have the Dornase alfa placed into one ear, with the other ear acting as a comparison."

"We believe this could get rid of these bacteria and stop children getting more infections and needing more ear surgery."

The Institute's Dr Peter Richmond, a paediatrician who was also Ruth's PhD supervisor, says that in WA each year about 3500 to 4000 children will require surgery for ear disease.

"It's a significant burden - that's almost one in 15 children having an operation so if we can reduce that number then that would be a fantastic outcome," he said.

The current trial involves 60 children under the age of five who are already having grommet surgery. Results will be collected over two years, with a larger national trial planned later. There are also plans to trial the treatment in Aboriginal children who suffer from high rates of severe chronic middle ear infections.

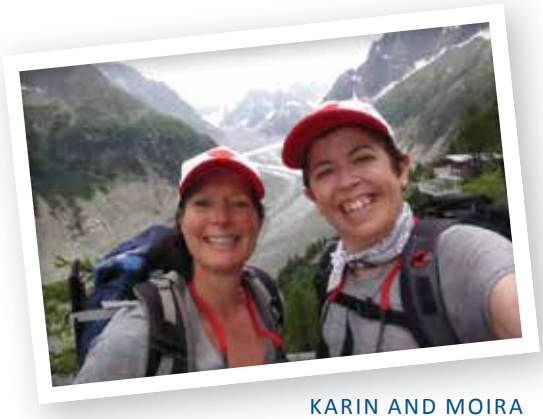
"This is the first potential change in treating middle ear infections for a long time, and more effective treatments will hopefully lead to improved hearing, better learning outcomes and a reduced burden on children and their families," says Ruth.

Ruth was one of 12 finalists in the annual national Fresh Science competition.

Thank you to Smartline Mortgage Advisors for their generous gift of $15,000 raised through approved mortgage applications in Western Australia.

CRAIG FORSYTH, MARK ROBERTS AND DAVID DEVENISH FROM SMARTLINE PRESENT THEIR CHEQUE TO THE INSTITUTE'S ASHLIE HIRNIAK

Climbing for a cure



KARIN AND MOIRA ON THE MOUNTAIN

The Institute's Professor Moira Clay says you go through some pretty tough moments - physically, emotionally and mentally - when climbing a mountain, but it's nothing compared to what kids with cancer go through.

Moira was part of a team of 10 Telethon Adventurers who climbed Gran Paradiso, Italy's highest peak, in July to raise money for cancer research.

Telethon Adventurers founder Rick Parish, who lost his son Elliot to brain cancer, led seven of the Adventurers to the summit.

Walking beside Moira was good friend Karin, and local guide Paolo. And although they didn't make it to the summit (4,061m), they came very close (3,750m)!

"It was exhilarating, confronting, empowering, spiritual," says Moira. "We both thought about the kids with cancer who are doing it tough. We both thought about Elliot, it really felt like he was present."

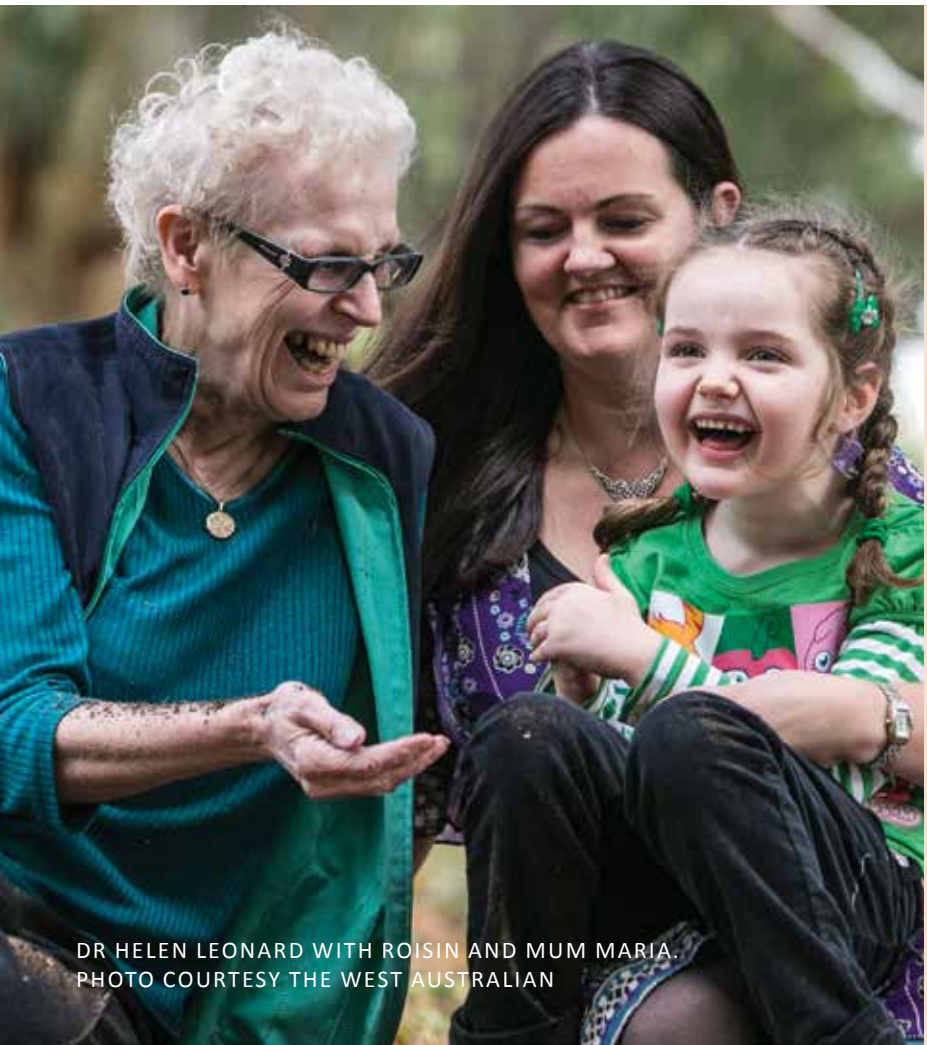
This adventure raised more than $360,000 for brain cancer research at the Institute. Well done everyone, a fantastic result!

The 2013 Telethon Weekend is on October 19 and 20.

Tune in to Channel 7 to watch local, national and international stars raise money for children's charities in Western Australia.

We are very proud to be one of Telethon's major beneficiaries.

telethon 7



DR HELEN LEONARD WITH ROISIN AND MUM MARIA. PHOTO COURTESY THE WEST AUSTRALIAN

One in a million

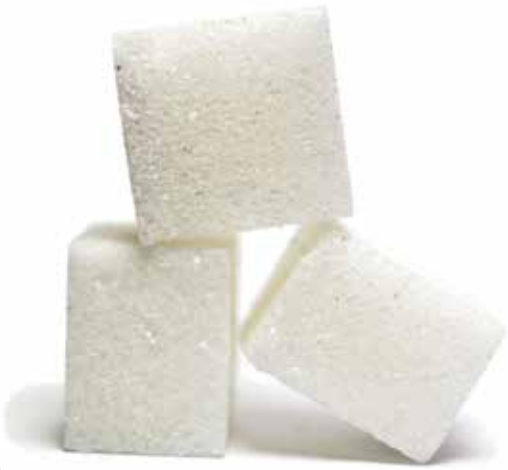
Seven-year-old Roisin is one in a million! Born with the very rare genetic condition called CDKL5 Disorder, Roisin is the only person in WA diagnosed with the disorder and one of less than 20 in Australia and 600 worldwide.

CDKL5 is a gene on the X chromosome, but when there is a deletion, duplication or mutation on the gene it causes abnormal protein production resulting in seizures, developmental delay and gastrointestinal and sleep problems.

Most children are dependent on others to perform the tasks of daily living but Roisin has milder symptoms allowing her to walk, communicate and attend mainstream school.

The Institute's Dr Helen Leonard was part of the Australian team that identified the *CDKL5* gene in an Australian family back in 2004. Now, her team has developed an international database for CDKL5 Disorder and have information from 179 people around the world.

Calls for re-introduction of sugar intake monitoring



A new study by the Telethon Institute has ignited calls for better collection of data on food sugar levels as part of the ongoing battle against rising obesity.

Researchers looked at foods high in sugar and using data relating to sugar supply and consumption over a 22 year period (1988 - 2010), generated a time series estimate of sugar in Australia's food supply.

Senior Analyst, Ms Wavne Rikkers says this showed very large increases in the volume and value of imported sweetened products into Australia over that time.

"By taking into account all forms of sugar in the diet - refined sugar as well as sugar added to manufactured or processed food or drinks imported into Australia - our research would suggest that per capita sugar consumption has been increasing since 1988 and this may well be having an impact on the dietary health of our nation," said Ms Rikkers.

Ms Rikkers says the research also examined claims by an earlier study that reported a drop in Australian sugar consumption alongside a rise in obesity rates, therefore creating a so-called 'Australian Paradox'.

"This claim cannot be supported given it may not have taken into consideration sugar contained in imported processed food products," she says.

The research has ignited calls for better monitoring of sugar levels in all food consumed in Australia - both local and imported - so a clearer and more effective indicator can be developed as to the impact of sugar consumption on the health of Australian children and adults.

The findings were published in *BMC Public Health* online journal.

Three of the Institute's PhD students were acknowledged as some of the best and brightest at Australia's first European Molecular Biology Laboratory (EMBL) PhD course.

Calila Santos (left), Genevieve Syn (second from right) and Cibele Gaido (right) said the course immersed them in a range of tools for life science research – bioinformatics, structural biology, genomics, biomedical imaging, stem cells, regenerative medicine and systems biology. The course also provided a chance for collaboration with other Australian PhD students.

Caitlyn Anne Scrap-a-thon

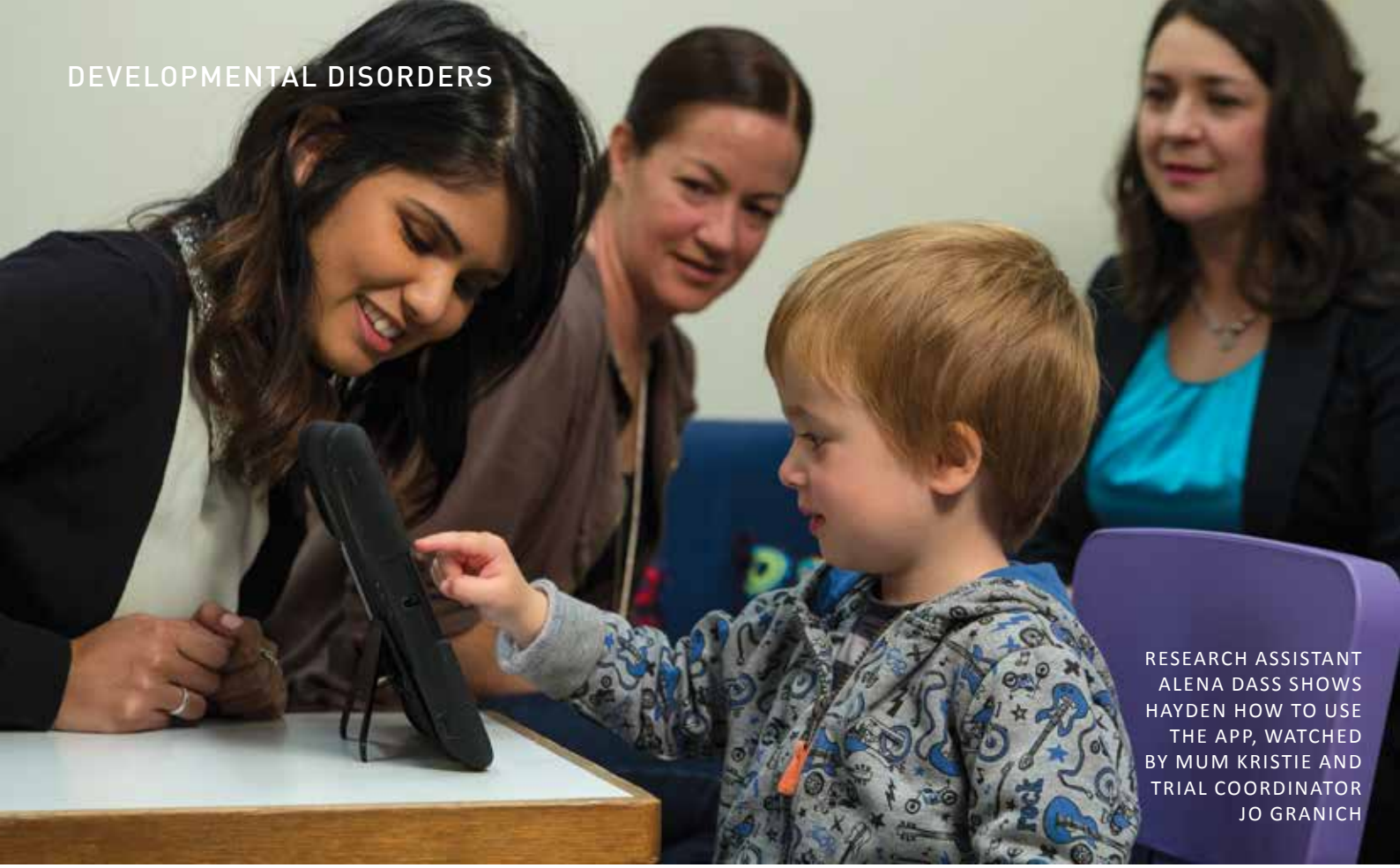
Crafters gathered in July for a mammoth scrap-a-thon, glittering and gluing their way through twelve hours of scrapbooking to fundraise for the Caitlyn Anne Trust.

Arriving at Smudge and Sparkle Scrapbook Shop bright and early, 24 avid crafters tinkered away for 12 hours until 8pm.

But it wasn't all hard work. Fiona Lee from Nutrimetics spoilt the ladies with hand massages and there were plenty of raffles, games and prizes to keep everyone entertained.

The day raised $1500 to help fund a PhD student to work at the Institute on a research project aimed at understanding unexplained childhood deaths.

MIKE, SAMANTHA AND WENDY HOBLEY WITH THE INSTITUTE'S CARRINGTON SHEPHERD



RESEARCH ASSISTANT ALENA DASS SHOWS HAYDEN HOW TO USE THE APP, WATCHED BY MUM KRISTIE AND TRIAL COORDINATOR JO GRANICH

Trialling an App for autism

With early intervention therapy for kids with autism costing up to $50,000 a year, and long waiting lists meaning some kids miss out, an iPad App could be the key to improved outcomes.

The Telethon Institute is leading a world-first study looking at the effectiveness of an educational App for kids with autism spectrum disorder (ASD).

Winthrop Professor Andrew Whitehouse, head of the Institute's autism research, said there are hundreds of autism therapy Apps but none of them have been scientifically tested and proven to be effective.

"Finding scientific evidence for any intervention is crucial to providing advice to parents," Professor Whitehouse said. "Our goal is to determine whether the TOBY Playpad App is effective for helping children with autism, and also for easing the burden on families."

Professor Whitehouse said any therapy that improves the time- and cost-effectiveness of early intervention, and is proven to enhance the longer-term outcomes among people with ASD, will provide enormous benefit to the community.

"The TOBY App may be one such tool that would allow parents to provide therapy to their child in their own home in their own time."

Study Coordinator Jo Granich said the team will be looking at whether the App really makes a difference to the lives of parents and children who find themselves in compromising situations in dealing with autism.

"Often, newly diagnosed families feel a sense of loss, isolation and helplessness of what they can do for their child with autism," Mrs Granich said.

"We hope that this study will tell us that the App is not only teaching their child early learning skills but also helps them to understand how to teach and interact with their child through daily routine and play activities at home and outside. And that's a long-life skill for a parent of a child with autism to have."

Autism is a developmental condition characterised by difficulties in social communication, and a restricted range of activities and interests. While we understand that autism runs in families, the exact causes of the condition remain unknown. One in 100 WA kids will be diagnosed with an ASD.

The TOBY Playpad App was developed by a WA team based at Curtin University.

WHO CAN TAKE PART

Kids under 4 diagnosed with autism in the past six months.

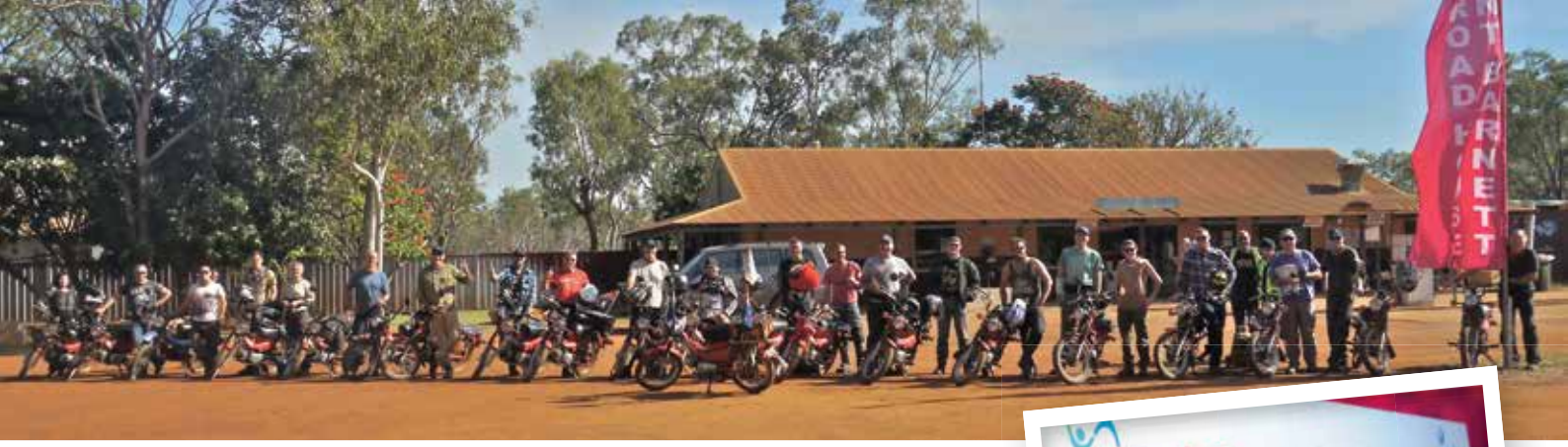
50 from Perth, 50 from Melbourne.

WHAT'S INVOLVED

All families will continue their usual therapies with half chosen at random to receive a loan iPad with the TOBY App to use for 30 minutes a day for six months. At the end of the study, all families will receive a free copy of the TOBY Playpad App.

FOR MORE INFORMATION

Phone 08 9489 7749 or email autism@childhealthresearch.org.au



Thank you Bright Blue!

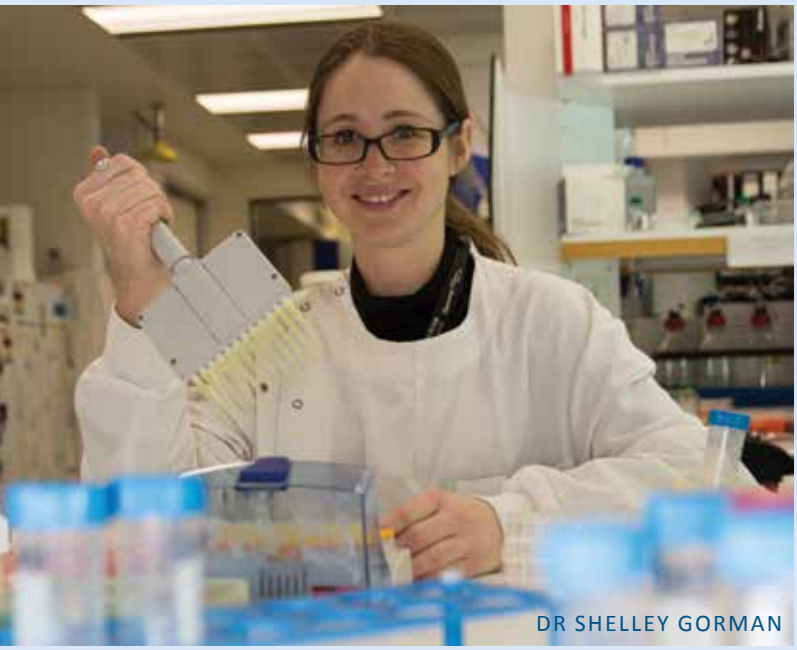
You need to be a very dedicated and adventurous rider to tackle the Gibb River Road from Derby to Kununurra on a postie bike.

That's exactly what a group of riders did in June this year for the annual Gibb River Ride to raise money for Bright Blue The Police Commissioner's Fund for Sick Kids. Money raised supports the Bright Blue Cancer Analysis Suite at the Institute, which will allow researchers to continue their important work into brain cancer. A big thanks to Bright Blue and the amazing team of riders.

For more information about Bright Blue or to join one of their up-coming adventures visit **www.brightblue.org.au**

POLICE COMMISSIONER KARL O'CALLAGHAN PRESENTED A $100,000 CHEQUE TO OUR DIRECTOR PROFESSOR JONATHAN CARAPETIS.

ASTHMA, ALLERGY & RESPIRATORY DISEASE



DR SHELLEY GORMAN

Getting Vitamin D

From sunlight - the amount of sunlight you need to make vitamin D depends on a range of factors such as the UV level, your skin type, your lifestyle, your location, the season and the time of day. The Cancer Council Australia has some good information on their website at www.cancer.org.au/preventing-cancer/sun-protection/vitamin-d/how-much-sun-is-enough.html

From food - oily fish, eggs, meat or fortified foods such as margarine and some milks.

From supplements - from pharmacies and supermarkets.

Vitamin D link to lung bacteria and asthma

The study by the Telethon Institute is the first to show a connection between vitamin D deficiency and bacterial infections in the lungs that could bring on, or exacerbate, asthma attacks.

The study showed that boys with low vitamin D levels are potentially more susceptible to the onset of asthma from lung bacteria than girls.

The Institute's Dr Shelley Gorman said the study re-enforced the key role good vitamin D levels play in keeping our kids healthy.

"Previous studies have shown that vitamin D deficiency in the womb affects lung development, but this is the first study to make a definite link between poor vitamin D levels and bacteria-causing lung inflammation that could contribute to asthma," she said.

"It's early days but what this indicates is that by improving their vitamin D levels we may be able to better control lung bacterial levels that cause inflammation. This inflammation could exacerbate asthma in older kids," said Dr Gorman.

More research is now needed to determine why boys with low vitamin D levels are more affected than girls.

The research was supported by the BrightSpark Foundation, Raine Medical Research Foundation and the Asthma Foundation of WA.

Grandparents joblessness and separation affecting today's kids


KIRSTEN HANCOCK

Long-term unemployment and separation are particularly disruptive life and family events and our researchers have found that their impact extends to future generations.

Telethon Institute researchers Kirsten Hancock and Professor Steve Zubrick looked at joblessness and separation of grandparents and the impact of these on the social and emotional wellbeing and academic achievement of their grandchildren.

The analysis is drawn from data from *Growing Up in Australia: The Longitudinal Study of Australian Children (LSAC),* a major study following the development of 10,000 children and families from all parts of Australia.

The research showed the effects of joblessness and separation experienced by grandparents extended beyond the outcomes of their own children (the study parents) into the next generation as well (the study children, or grandchildren).

Ms Hancock said irrespective of whether or not the study parents had experienced joblessness, the outcomes for children whose grandparents had experienced joblessness were significantly worse than those whose grandparents had not experienced joblessness.

"The poorest outcomes were observed for children with two generations of joblessness in their family, and these patterns were observed for children as young as six years of age," Ms Hancock said.

"For example, where 24% of children aged 6-7 years had likely social-emotional problems if their parents had experienced joblessness, this increased to 33% for children who had two generations of joblessness in their family."

"This intergeneration effect was also evident in the children aged 10-11 years where the numbers were 27% and 43% respectively."

A similar pattern was shown for family separation, but only in families where the study parents had separated. That is, family separation in the grandparent generation was only associated with poorer outcomes for study children if the study parents had also separated.

Ms Hancock said the results demonstrate how challenging family circumstances can persist across generations.

"It is important that vulnerable families who experience these disruptive events are provided with adequate support to help improve the outcomes not only for their own children, but for subsequent generations of families," she said.

The research was published in the Annual Statistical Report 2012 of the Longitudinal Study of Australian Children (LSAC) released by the Australian Institute of Family Studies (AIFS).

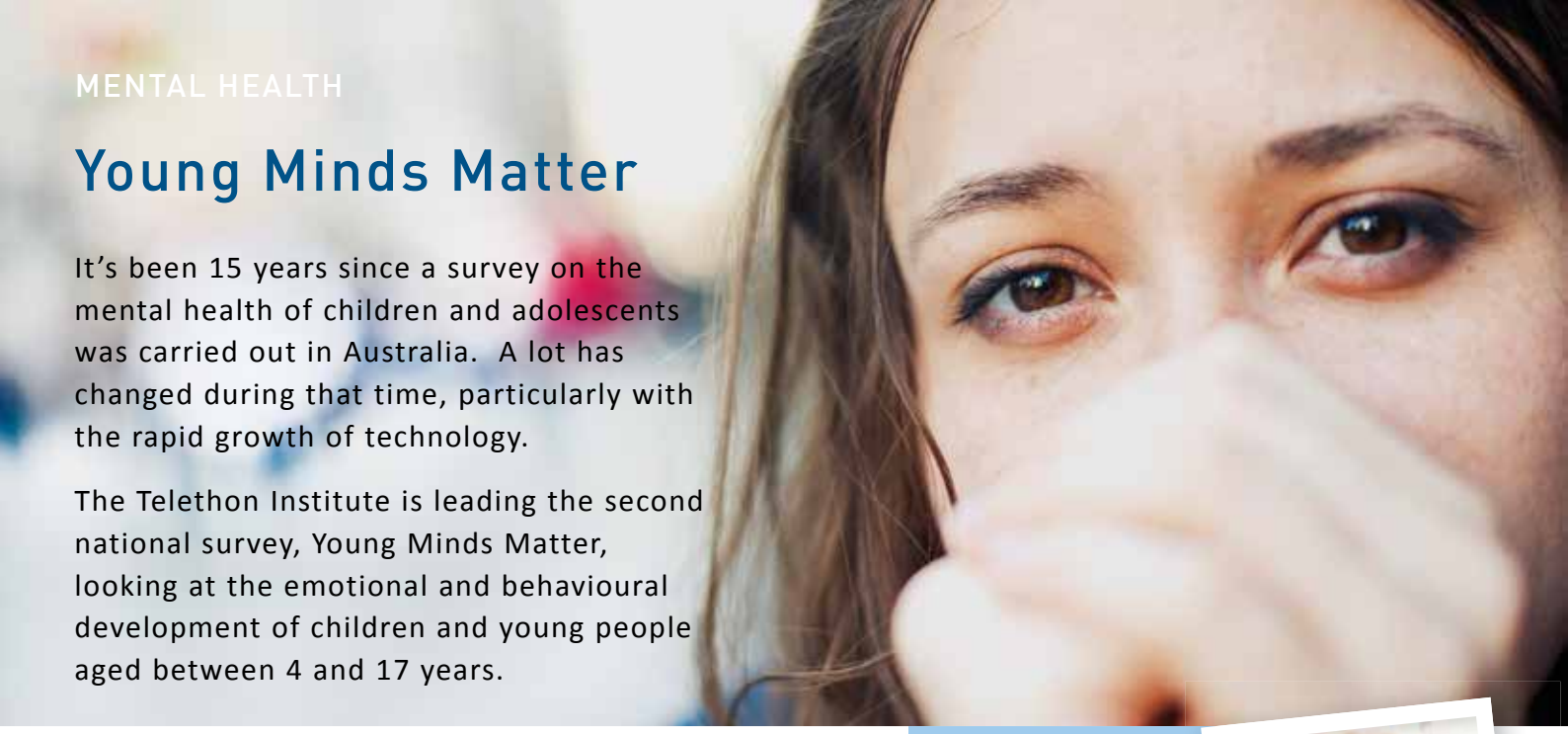
Running for a reason

A very BIG thanks to all the Institute staff, community groups and other runners who nominated the Telethon Institute as their beneficiary for the HBF Run for a Reason. Ninety runners raised $26,500 for the Institute, truly amazing!

A special thank you to the 'Rett Pack for a Cure' team led by Caroline Dempster-Fitzpatrick which raised an incredible $9,155 for our Rett syndrome research. The Rett Pack ran with, and for, their little girls with Rett syndrome - Charlotte, Addison, Mikayla, Kayla and Chloe - and all girls with Rett syndrome in the hope that our research will one day find a cure.


ADDISON, WHO HAS RETT SYNDROME, WITH HER SISTER OLIVIA AND MUM NARELLE

Young Minds Matter



It's been 15 years since a survey on the mental health of children and adolescents was carried out in Australia. A lot has changed during that time, particularly with the rapid growth of technology.

The Telethon Institute is leading the second national survey, Young Minds Matter, looking at the emotional and behavioural development of children and young people aged between 4 and 17 years.

More than 6000 Australian families have been selected randomly and are being interviewed as part of the survey funded by the Australian Government through the Department of Health and Ageing.

Heading the study are Professors Steve Zubrick and David Lawrence from the Telethon Institute and UWA, who say the survey results will be used to help plan, shape and develop programs and support services for Australia's children and adolescents, building on the successful work of the first survey carried out in the late 90's.

"The first survey really laid the foundation for Australia to improve the mental health and wellbeing of our kids," said Professor Zubrick.

"This next phase will provide really valuable insight into how our kids are doing and help us to plan for better prevention and better treatment of mental health issues. To get a complete picture, we need to know about all kids, not just those with problems."

Professor Lawrence said this second survey will be instrumental in shining new light on how the kids of today are coping with new challenges and new pressures in a changing world.

"These are very different times for children and young people growing up compared to 15-20 years ago, and the information this new survey collects will be critical in helping policy makers and service providers best meet the mental health and wellbeing needs of a new generation of young people," said Professor Lawrence.

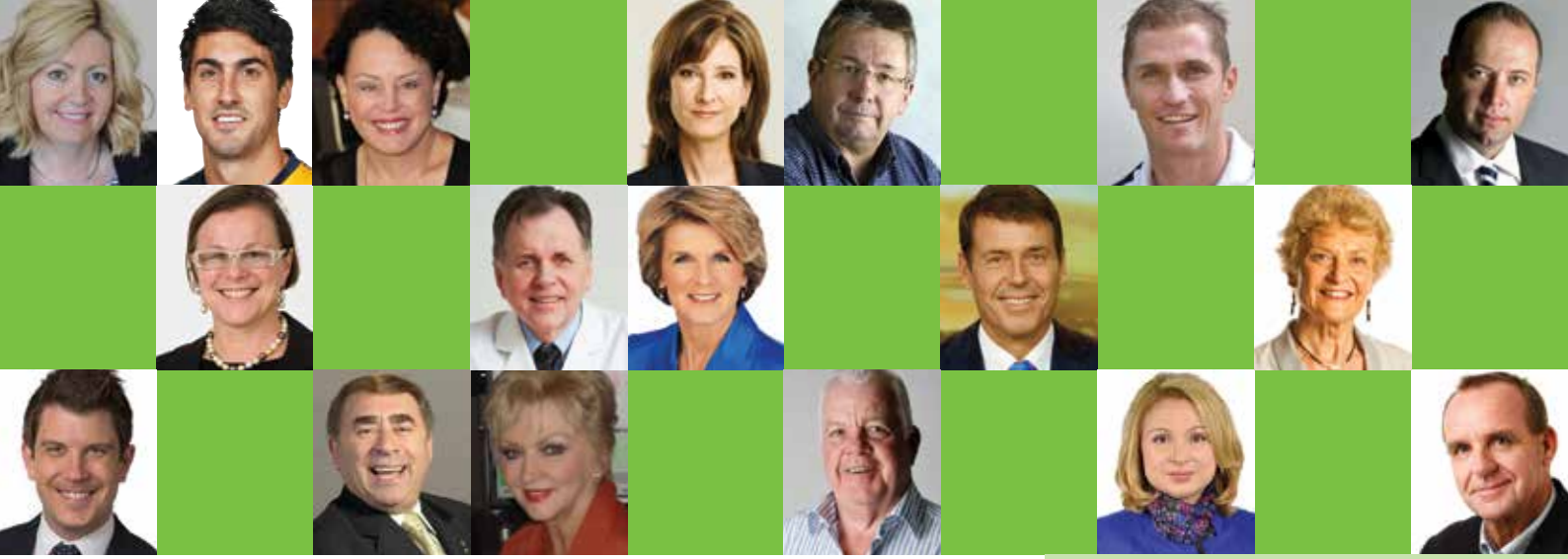
For more information go to **www.youngmindsmatter.org.au**

"Every young Australian has their own dreams and own hopes, just like I did when I took on the challenge of sailing solo and unassisted around the world. I may have spent 210 days by myself at sea but I was never alone, always supported and loved from afar. The Young Minds Matter survey is a really important look at what our next generation of young Australians want and need to help support them in fulfilling their own dreams and potential. I thank you for taking the time to contribute to this survey, because young minds really do matter."

JESSICA WATSON
Young Australian of the Year 2011
Medal of the Order of Australia (OAM)

A BIG thanks to everyone who visited our booth at the Pregnancy, Babies and Children's Expo in August. It was lovely to meet lots of new and expecting parents and photograph all those budding mini-scientists.

If you would like information on pregnancy research go to childhealthresearch.org.au/pregnancy



Meeting of the Minds

Ever wanted exclusive access to some of Perth's best business brains, sporting stars, media heavyweights and remarkable researchers?

Well now's your chance with the inaugural Meeting of the Minds, where coffee and conversation come together for a very important cause.

For one week only the people of Perth will have the chance to make an online bid for one-on-one time with some of WA's most prominent 'minds', with all money raised going to support vital work at the Telethon Institute for Child Health Research.

Up for grabs is an hour-long chat over coffee at Caffissimo West End where owner Alida Cubbage came up with the idea of bringing coffee, conversation and caring for kids all together in one fun-filled fundraiser.

"Research is where the real work begins, so who better to support than the Telethon Institute when it comes to tackling illness and disease in our children." - Alida Cubbage

18 generous 'minds' will be taking part in the online auction which kicks off 7pm Friday 20 September until 12noon Friday 27 September.

Bids can be made via

www.meetingoftheminds.org.au

Hosted by

caffissimo
FRESH ROAST DAILY
WEST END VILLAGE

- Rick Ardon
- The Hon Julie Bishop MP
- Eleni Evangel MLA
- Associate Professor Judith Fordham
- Rick Hart
- Max Kay AM CitWA
- Monika Kos
- Professor Barry Marshall AC
- Steve Mills
- Matt Moran
- Paul Murray
- Steve Pennells
- Matt Rosa
- The Right Honourable the Lord Mayor of Perth Ms Lisa Scaffidi
- Jenny Seaton
- Adam Selwood
- Professor Fiona Stanley AC
- Professor Fiona Wood AM

ASTHMA, ALLERGY AND RESPIRATORY DISEASE

Anthony's a BrightSpark

Institute asthma specialist Dr Anthony Bosco has been awarded the BrightSpark Foundation McCusker Fellowship of $350,000 over three years.

Dr Bosco recently discovered a network of inflammatory genes that causes asthma. He has shown that this network contains hundreds of interconnected genes, which go awry during asthma attacks in children.

Dr Bosco is investigating the role of a master gene – IRF7 – which he believes holds the key to this gene network and reducing or preventing asthma attacks. The results could pave the way for the development of new drugs to combat this chronic lung disease which affects more than 2 million Australians.

Dr Bosco returned to Perth in 2011 to re-join the Institute after spending two years at the Arizona Respiratory Centre and BIO5 Institute at the University of Arizona. Dr Bosco first started working at the Institute in 2000 as a Research Assistant before completing a PhD.

Community fundraiser

A very big thanks to Jo Jackson and Keely Diggins who held a charity dance in Ocean Reef on August 24 and raised almost $9,000 for the Institute. Jo's son has autism and many of her friends kids have been sick over the years, requiring hospitalisation. Jo believes in the value and power of research to make a difference to the health of kids. More than 160 people attended the dance and helped Jo raise this amazing total. Thank you!

KEELY DIGGINS AND JO JACKSON

PHOTO COURTESY DKY PHOTOGRAPHY

School attendance matters

The most comprehensive study of school attendance has shown that every day of absence from school makes a difference to numeracy, reading and writing.

Institute researchers looked at school enrolment, attendance and NAPLAN records of more than 400,000 WA public school students over a five-year period from 2008 to 2012.

The study showed that the average attendance rate throughout the primary years is around 92-93% which equates to seven to eight days of absence each semester, or up to 16 days each year. Attendance rates start to dip away in Year 8, decreasing to about 86% by Year 10.

Institute researcher Kirsten Hancock said many children attend school more frequently than this, but there are also many students who attend less frequently.

"We found that being absent from school has a cumulative effect, that is, it adds up over time," Ms Hancock said. "If parents can make the effort to make sure their children catch up on what they've missed, the effects of absence would be reduced."

Ms Hancock said the research also found that the type of absence also matters. Unauthorised absences (where no reason is provided, or the reason is not accepted) had a greater impact on learning than authorised absences (for example when a student is sick).

This pattern suggests that it's not just being absent from the classroom that matters for achievement, but that the underlying reasons for being absent are also important. She also noted that rates of unauthorised absence were highly consistent from Year 1 and not seen just in older students.

Ms Hancock said the results support the idea that attendance isn't just a school issue, it's the responsibility of students, parents, schools and the wider community.