Co-Director’s Message: Dr Jonathan Payne

I am delighted to introduce this, our third newsletter from the Child Neuropsychology Research Group. The last few months have been very successful for the group. On the publication front, we’ve been very productive. Among the many great papers, a special shout-out needs to go to Nick Ryan, for his diffusion tensor imaging study which found a home in *Psychological Medicine* and Dr Marddee Greenham, for her paper on improving cognitive outcomes in childhood stroke, which was published in *Current Opinion in Neurology*, both excellent journals.

Congratulations to Dr Louise Crowe and Prof David Coghill who were successful in receiving theme funding for their respective projects on establishing a registry of typically developing controls to use in Child Neuropsychology studies and describing the cognitive profile of children with disruptive mood dysregulation disorder; a relatively new diagnostic group that is not well-characterised.

Our group is also happy to share in the success stories of some of our brilliant PhD students. Congratulations to Dr Mardee Greenham on completing her PhD, and to Nicholas Ryan and Marta Arpone for their brilliant completion seminars.

On the project front, two large studies have recently finished up – Take a Breath and Take Care. Incredible amounts of time and effort have gone into these studies and I know both teams will be working furiously to get their data analysed and published in the coming months. While nostalgic to see these studies end, the teams are moving onto the next phase of studies, which we’ll hear more about in the coming months.

It is also my pleasure to welcome two visiting students from the Netherlands, Merith and Christine. Please take the time to read their interviews.

Finally, I would like to thank everyone in the group – senior researchers, post-doctoral fellows, post-graduate and graduate students, administrators, volunteers, as well as our research participants, who generously offer their time and effort in support of our (often lengthy!) research activities.

Here’s to a productive and successful second half of 2017!

**Feature Project: Take a Breath**

Take a Breath is a program of research committed to finding the best way to support families whose child has recently been diagnosed with a serious or life-threatening illness or injury. Discovering that a child has a serious illness/injury is distressing for parents. Along with the emotions and worries of having an ill child, spending time at the hospital for treatment also brings many changes to how the family functions from day-to-day. Families adjust differently, so it is important for us to be able to work out at an early stage which families may benefit from additional support services, which will help them and their child in the short term and well into the future.

This research program has been running since 2009, and comprises a number of different studies:

1. **Take a Breath Cohort study:** This was a longitudinal study in which parents completed a series of questionnaires over a two-year period. We asked how parents were feeling and adjusting to their child’s illness or injury. This has helped us to better understand and identify families that may benefit from further psychosocial support. This was completed in 2014.

2. **Take a Breath Pilot Studies:** After the initial development of the Take a Breath parent program, a series of pilot studies were conducted to explore the feasibility, usability and usefulness of the program. Both face-to-face and video-conferencing modes of delivery were explored, and the videoconferencing platform was favoured as it allowed a greater number of parents across Australia to take part. These pilots were completed in 2014. We also completed two small pilots to explore the applicability of the Take a Breath Program for parents of children with a chronic illness: Cerebral Palsy and Chronic Fatigue Syndrome (the latter included work with both adolescents and their parents). These were completed in 2015.

3. **Take a Breath Randomised Controlled Trial (RCT):** We are currently evaluating the Take a Breath program in a large study across different hospital departments. In this trial, Take a Breath is being delivered online using videoconferencing so that the families in most need can take part from the comfort of their own home, anywhere in Australia. Recruitment for this project is complete, however groups will be running up until June 2017.

Updates and recent achievements:

- Excitingly the team has just completed their final parent group, and the project is beginning the process of winding up. Data analysis and paper writing for the trial to be conducted in the second half of 2017.

- Another exciting development is that the process of translating the program into clinical care is in its early stages within the Developmental Medicine Department.

- Sadly, our clinical lead and supervisor, Dr Meredith Rayner will be leaving the team at the end of June 2017, given our groups are complete. The remainder of the core team, Frank Muscara, Anica Dimovski, Laura McMillan and Kaitlyn McCabe will all continue for a day a week on TAB until the end of 2017. They will receive ongoing support and input from the rest of the CI team, being Prof Vicki Anderson, Prof Jan Nicholson, and Dr Maria McCarthy. And we will also coerce Stephen Hearps to remain involved.

- We have recently published some articles, listed below.

Editors: Edith Botchway and Nikita Tuli  
Guest Editor: Merith Idema and Christine Resch  
Editorial Co-ordinators: A/Prof Cathy Cutroppa, Dr Celia Godfrey, and Dr Frank Muscara  

*Have a good read!* Contact the editors via this link.
An interview with two visiting students from the Netherlands: Merith Idema and Christine Resch.

**Q:** Tell us about yourself.

Merith: I am 21 years old, currently in 3rd year of studying Medicine in the Netherlands. I like playing guitar and piano. I also love skiing and cooking. I have a lovely silly golden retriever, which I unfortunately had to leave behind. I will be at MCRI for 6 months.

Christine: I am a 3rd year PhD candidate from Maastricht University, Netherlands. Next to that, I teach various psychology courses. I enjoy travelling and I am loving Melbourne so far. I will be here from June to August.

**Q:** Why did you choose Child Neuropsychology group for your overseas research experience?

Merith: This research internship is part of the requirements for my Honors program. I was keen to do research related to ADHD or Autism, so I got in touch with the researchers here which set the ball rolling.

Christine: My PhD research is in an ABI population, and aligns with the kind of research that happens within the TBI group. By coming here, I wanted to gain some more experience in paediatric TBI research. The Child Neuropsychology group was hence an obvious choice given its well established reputation for excellent work in this population.

**Q:** What kind of projects are you involved in here?

Merith: I am investigating the effect of Ritalin on deficits in neuropsychological performance in ADHD-boys. Dr Jonathan Payne and Professor David Coghill are my supervisors. The data for the project has come from Professor Coghill’s clinic. Initially, it was hard to get a grip of the analysis but I am happy with my progress, and the project is advancing pretty well.

Christine: I am writing a paper on data from the VNI-social study, which will focus on executive function outcomes and their relation to SWI imaging findings. In addition, I have been helping with recruitment for the AMAT-C study, as well as recruitment and assessments for Nikita Tuli’s Cogmed study.

**Q:** How do you think this research experience will impact your professional journey? Merith: For me this experience has widened the horizon of possibilities for my career path. The field of medicine and research has become broader for me personally. The first-hand experience of doing one’s own analysis is something I would have never gained otherwise.

Christine: I think this has helped me to get more specific. It has taught that similar research problems can be approached and conceptualized in diverse ways within different research settings. It’s amazing to see how research projects are conceptualized, developed, and rolled out into production. The internal and external research collaborations are truly inspiring.

**Q:** If you were to describe your experience here in 3 words, what will they be?

Merith: international, relaxed, open.

Christine: inspiring, valuable, “no worries”.

**Q:** What has been the highlight of your stay here so far?

Merith: Coming up with ways to best analyse and interpret my dataset was very intriguing. The joy of creating something – I have not done this before. Everyone is very helpful and welcoming. I also like the cultural diversity of the group. It has been so comforting and reassuring to know that with the right kind of support and work environment one can settle oneself pretty quickly.

Christine: I came here to gather experience in a different research group and I am more than happy with my decision to do so. I have learnt a lot during my short stay here. I am looking forward to travelling after my work experience finishes.

**Research Team Updates**

**Take CARe (Concussion Assessment and Recovery Research)**

Since November 2013, the Take CARe team has recruited 417 participants and collected 45 MRI scans and blood samples from 55 participants. Recruitment is currently on hold while the project team prepares for the next stage: an RCT to investigate clinical interventions for children who are slow to recover.

Several members of Take CARe attended the International Brain Injury Association conference in New Orleans earlier this year. They presented two posters and gave one oral presentation. At the Australasian Society for the Study of Brain Impairment (ASSBI) conference, the team conducted a symposium on paediatric concussion and Katie Truss (Research Assistant for Take CARe) won the Kevin Walsh award for best student presentation. Congratulations!

This year, members of Take CARe also wrote a book chapter on concussion and mental health and published three papers in high impact journals: *Pediatrics, Journal of Neurotrauma*, and the *British Journal of Sports Medicine (BJSM)*. There was considerable media attention following the publication of BJSM paper and Michael Takagi gave multiple radio and newspaper interviews. The paper was led by Gavin Davis (neurosurgeon for Take CARe) and was a collaboration between an international group of...
paediatric concussion experts. It summarized 8 separate systematic reviews and addressed several key questions for paediatric concussion management. Of the 13 authors, 4 are part of the Take CARe team and Vanessa Rausa was acknowledged for her substantial contribution. Several other papers are currently in preparation.

**Genetic Studies Group**

Some interesting activities and achievements from our group this year include the following:

- Data collection on the Dravet study has ended and Amy Brown is currently in the process of writing a manuscript with the assistance of Marta Arpone.
- In May this year, Louise Crowe presented a paper at the Friedreich Ataxia Symposium on Personality, Social Skills, and Executive Function in adults with Friedreich Ataxia.

**Traumatic Brain Injury (TBI)**

We are delighted to welcome Christine Resch from the Netherlands, and three student volunteers who joined our group this year: Michelle Hong, Jasmine Schipp, and Stephanie Cochrane.

On the project front, we have completed recruitment for two studies involving the use of Signpost, a behavior intervention program for parents of children with acquired brain injury. We are also commencing recruitment to pilot the online clinician-support version of the Amat-e intervention, a program for improving attention and memory in children with TBI. Recruitment is also ongoing for our Cogmed intervention project, an RCT aimed at improving working memory in children with TBI using the ‘Cogmed Working Memory Training’ program. Similarly, recruitment for the 20-year longitudinal study investigating sleep and psychosocial outcomes following childhood TBI is ongoing.

Recent conference presentations from our group include the following:

- Catroppa, C. Invited Symposium Chair. Paediatric TBI. 40th Annual Brain Impairment Conference, Melbourne, Australia, 1st-3rd June 2017.

**Acquired Brain Injury (ABI)**

The ABI group has multiple recently published (or soon to be published) papers to be proud of.

Additionally, other articles focusing on social function, motor outcomes, and fatigue following childhood stroke are currently in submission. The results of the stroke studies were also presented at the European Academy of Childhood Disability conference, held earlier this year in Amsterdam, Netherlands. Details of the presentation are as follows: 5-year motor outcomes following paediatric arterial ischaemic stroke - Anna N. Cooper, Vicki Anderson, Stephen Hearps, Mardee Greenham, Rod W. Hunt, Mark T. Mackay, Anne L. Gordon.

**Paediatric Evaluation of Emotions, Relationships, and Socialisation (PEERS)**

Since our last update, the PEERS team has been busy collecting data through schools and Royal Children’s Hospital (RCH) clinics. The PEERS team also had the opportunity to meet with the Melbourne Museum team to debrief about data collection that occurred during the April school holidays. The feedback from the MM staff was extremely positive. They were very excited to hear about the sample size achieved and the demographics of those who engaged in the study at the museum.

To date we have assessed 617 children recruited through schools. We have another 32 children to assess in the first few weeks of term 3. Four schools are currently in the consenting phase of the project and we are in discussions with a couple of other schools about their involvement in the project. We are hopeful that we will hit a target of 700 participants recruited through schools.

The PEERS team have been very busy with recruiting participants for our clinical sample. The team is recruiting patients via several clinics run in the Centre for Community Child Health. Forty patients have been consented into the study with ~23 having already undergone assessment.

We are extremely grateful to all the families that participate and the volunteers who do such a great job – the sample size numbers we’ve achieved thus far could not have been done without their help! We also wish to thank the CCCH and Gahan Roberts for allowing us to approach families in their clinics.

**Project presentations:**


**Neurofibromatosis Research Projects**

The Neurofibromatosis (NF1) team is continuing their work on multiple research projects that aim to investigate the social-cognitive phenotype of NF1 and the efficacy of interventions for cognitive and behavioural impairments in this population. Recruitment for projects investigating the links between NF1, social-communication difficulties and Autism Spectrum Disorders (ASD) are underway. Regarding our intervention trials, we
received governance approval from RCH for two RCTs; one evaluating the efficacy of methylphenidate for attention impairments, and the other examining the efficacy of Cogmed training in children with NF1 presenting with working memory difficulties. Recruitment for these trials will commence soon. In addition, we recently received approval for a study that aims to establish the psychometric properties of computerized cognitive assessment tools in children and adolescence with NF1, as well as to establish the prevalence of atypical performance on tasks within these batteries in the NF1 population. It is anticipated that findings from this study will guide the outcome measures of future clinical trials.

Recent group publications

**Take a Breath**


**Traumatic Brain Injury**


**Acquired Brain Injury**


**PEERS**


**Neurofibromatosis**


Invited Presentation:


Take a Breath