**Director’s Message: Prof Vicki Anderson**


Our work focuses on research that contributes to knowledge about childhood conditions that involve the developing brain, such as traumatic brain injury, stroke, attention deficit disorder, autism, and rare genetic conditions. Other highlights of interest include attending the Concussion Census Meeting at Berlin and the International Brain Association Conference at New Orleans.

On the digital front, other updates include our recent AFL partnerships. We have also developed initiatives in the mental health sphere with UCSF, involving the evaluation of a digital mobile app designed to improve outcomes in various mental health populations. It has been validated in adult populations, however we have an opportunity to validate it within a paediatric context.

I would like to extend my heartfelt appreciation to our team of researchers, postdoctoral fellows, doctoral students, administrators, enthusiastic volunteers, and the dedicated participating families who generously offer their time and insights in support of our research activities.

Finally, I am delighted to introduce our newly appointed Co-leader for the Child Neuropsychology Group, Dr Jonathan Payne. Dr Payne oversees a multi-faceted research program centred on translating innovative scientific discoveries to improved care for individuals with the single gene disorder neurofibromatosis type 1 (NF1).”

**Feature Project: Traumatic Brain Injury**

Over the years, the Traumatic Brain Injury (TBI) research team successfully initiated a number of research projects aimed at improving childhood TBI outcomes. Senior group members include A/Prof Cathy Catroppa, Dr. Celia Godfrey, and Prof Vicki Anderson.

One of these studies is a randomized controlled trial (RCT) aimed at improving working memory in children with TBI using the ‘Cogmed Working Memory Training’ program. This project will also include assessments of decision making, an often neglected outcome in children with TBI, as well as neuropsychological, and functional outcome assessments. The project will form Nikita Tuli’s PhD thesis, and she is supervised by A/Prof Cathy Catroppa, Prof Vicki Anderson, and Dr Celia Godfrey.

Similarly, we have obtained ethics approval to pilot the Amsterdam Memory and Attention Training for Children (Amat-c) in children presenting with attention and memory difficulties following childhood TBI. Originally developed in the Dutch, our team previously translated this program into English and piloted its feasibility and efficacy in Australia. The current project is aimed at piloting an online clinician support component of the program. Investigators on this project include: A/Prof Cathy Catroppa, Prof Vicki Anderson, Nicholas Ryan, Edith Botchway, Nikita Tuli, Dr Stefanie Rosema, and Dr Cheryl Soo.

Our team is also involved in two RCTs on behavioural interventions following childhood TBI. Kaitlyn Taylor and Clara Chávez are PhD students assessing the efficacy and feasibility of the ‘Signpost for Building Better Behaviour’ program in Australia and Mexico, respectively. To date, parents enrolled in both studies have expressed eagerness to participate in the programs. These students are supervised by A/Prof Cathy Catroppa, Prof Vicki Anderson, and Dr Celia Godfrey.

Finally, we recently started the 20-year follow-up of our longitudinal study on TBI outcomes (Anderson and Catroppa). This follow-up forms Edith Botchway’s PhD dissertation, and is aimed at investigating sleep outcomes following childhood TBI, as well as the relationship between sleep disturbances and psychosocial outcomes. This project is expected to inspire the regular assessment and treatment of sleep following childhood TBI. Edith is supervised by A/Prof Cathy Catroppa, Dr Celia Godfrey, and Prof Vicki Anderson.

“In 2017, we look forward to further success in our research endeavours”. We, A/Prof Cathy Catroppa, Dr Celia Godfrey, and Prof Vicki Anderson would like to express our profound gratitude to all our PhD students and 2016 volunteers for their enthusiasm and hard work throughout 2016.

**Group Presentations**


Nikita Tuli - Decision Making and Neuroscience Symposium, Lady Cilento Children’s Hospital, Moving Ahead CRE Meeting.

Edith Botchway - MCRi Students Symposium, Lady Cilento Children’s Hospital, Moving Ahead CRE Meeting.

**Some 2016 Group Publications**


Take a Breath

To reduce traumatic stress and anxiety in parents of children with a life threatening illness, the Take a Breath (TAB) project is running online intervention group sessions for affected parents. These groups will continue until mid-2017.

The Chief Investigators, Frank Muscara, Prof Vicki Anderson, and Meredith Rayner are also involved in other collaborative projects. One of these includes a project with the MCRI Commercialisation Team and a research group in Canada. With the aim of supporting adolescents with depression, this project will trial a digital health platform known as the PRIME-D program. Together with Maria McCarthy, Frank is helping to potentially set up collaboration with Smiling Mind in order to develop mindfulness and meditation programs, and to test their efficacy within a hospital context.

On the personal front, Frank and his wife Luisa had a baby boy, Levi.

Take CARe (Concussion Assessment and Recovery Research)

The Take CARe (Concussion Assessment and Recovery Research) project aims to provide a comprehensive description of recovery trajectories following a concussion in the first year following a first episode of arterial ischaemic stroke (AIS) in children aged 0–18 years. Phase 1 assessed sixty-six children at 1, 6, and 12 months post-AIS. Assessments involved measures of motor, language, and cognitive function. Parents and older children also completed questionnaires measuring adaptive function and behaviour. Phase 2 explored the long term outcomes of AIS by assessing similar outcomes at 4–6 years post-AIS in a subset of the children (n = 34) involved in phase 1 of the study.

Some publications related to this study:

Other articles, currently in submission focus on early predictors of psychosocial function five years following paediatric stroke, motor outcomes, and improving cognitive outcome for childhood stroke.

Acquired Brain Injury (ABI)

Mardée Greenham’s ABI group has been conducting research on the discovery of myriad causes of insult and subsequent consequences to a child’s brain.

One of these studies is a two-phase project aimed at investigating the trajectory of recovery in the first year following a first episode of arterial ischaemic stroke (AIS) in children aged 0–18 years. Phase 1 assessed sixty-six children at 1, 6, and 12 months post-AIS. Assessments involved measures of motor, language, and cognitive function. Parents and older children also completed questionnaires measuring adaptive function and behaviour. Phase 2 explored the long term outcomes of AIS by assessing similar outcomes at 4–6 years post-AIS in a subset of the children (n = 34) involved in phase 1 of the study.

Some publications related to this study:

Other articles, currently in submission focus on early predictors of psychosocial function five years following paediatric stroke, motor outcomes, and improving cognitive outcome for childhood stroke.

So far, it has been a dynamic and an engaging experience for the PEERS team. The team has presented in 19 schools and research groups since the previous newsletter; including a presentation at the School Counsellors and Psychologists Conference in November 2016. To date, the PEERS team has assessed 543 children and adolescents across primary and secondary schools in Victoria. A further 50 participants have been consented into the study and will undergo assessment in the coming weeks. Recruitment through schools is ongoing.

During the April school holidays, the PEERS team recruited participants through the Melbourne Museum. This ‘pilot project’ had been in the works since July 2016. The team was unsure of what to expect but are very happy to report that were able to assess 270 children over the 10 days period. The PEERS team is extremely grateful for the support received from the team at the Devonshire Museum - Museums Victoria.

The PEERS team is now focusing on collating data for their clinical sample. The team will work closely with the Centre for Community Child Health to recruit their sample.

The PEERS standardisation team conveys their sincere gratitude to all the volunteers for their contribution towards attaining this height.

Neurofibromatosis Research Projects

The Neurofibromatosis (NF1) team is currently working 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 a project investigating the links between NF1 and Autism Spectrum Disorders (ASD) is underway. The team is excited to have recently received ethics approval for a project investigating social cognition in children with NF1 and its relationship with GABA abnormalities using PEERS and magnetic resonance spectroscopy. Regarding their intervention trials, governance approval is pending 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. These projects are anticipated to commence in early 2017.

In addition to the increasing number of projects, the NF1 team welcomes two lovely new members that will be working across a number of these projects: Natalie McLean and Rachel MacKenzie.

Genetic Studies Group

This research group includes a group of seasoned researchers dedicated to improving the lives of children with various genetic conditions including: Muscular Dystrophy, Dravet Syndrome, and Fragile-X Syndrome.
Claudine Kraan received an NHMRC Early Career Fellowship grant to complete a Fragile X study titled “Defining FMR1 and SNRPN epigenetic signatures associated with neurodevelopmental disorders”. Fragile X, Prader-Willi and Angelman Syndromes are caused by chemical changes to a DNA called methylation that affects gene function. In many cases, children with these disorders will have intellectual disability, poor motor skills, and autism spectrum disorder (ASD). This project will use novel sensitive laboratory and clinical measures to expand understanding of neurological and behavioural issues in these children, and how these relate to function of FMR1 and Chromosome 15 imprinted genes.

Dr Louise Crowe has had ethics approved for one of her studies. This new study aims to investigate social skills and executive functioning in children with muscular dystrophy, and investigate how mothers of boys with muscular dystrophy cope.

In relation to Dravet Syndrome study, Prof Vicki Anderson, Marta Arpone, and Dr. Amy Brown have had a paper accepted (as co-authors) in Neurology.

Marta Arpone had her completion seminar in November for her PhD project in Fragile X; which went very well!

![Snapshots from the 2016 Child Neuropsychology Christmas Party!!!](Image)

Marta Arpone, receiving recognition for her hard work!

**Some upcoming Conferences:**

The 40th Annual Brain Impairment Conference of ASSBI – 1st-3rd June 2017. Melbourne, Australia.

18th International Mental Health Conference – 21st-23rd August 2017. Gold Coast, Australia.

Paediatric Acquired Brain Injury-20th-23rd September. Rome, Italy.


Contact the editors via this link.