

ADELAIDE | 27-29 NOVEMBER 2014
20th APS Clinical Neuropsychology Conference

APS College of Clinical Neuropsychologists



“Better Knowledge, Better Outcomes”

PROGRAM

We would like to acknowledge this land that we meet on today is the traditional lands for the Kurna people and that we respect their spiritual relationship with their country. We also acknowledge the Kurna people as the custodians of the greater Adelaide region and that their cultural and heritage beliefs are still as important to the living Kurna people today.

Welcome

It is our pleasure to welcome you to the 20th Annual Conference of the Australian Psychological Society’s College of Clinical Neuropsychologists, entitled Better Knowledge, Better Outcomes.

The conference promises to provide delegates a stimulating and diverse program. We aimed to provide a program maximally responsive to the interests and needs of practitioners, researchers and advanced students in the specialisation of clinical neuropsychology with a balanced blend of theoretical and practical content, as well as grappling with professional issues and future challenges relevant to our profession.

Thank you to our invited speaker, all the presenters, generous sponsors, session chairs, all conference volunteers and the helpful staff at the National Wine Centre and Scene Change.

We encourage you to enter into the spirit of the Conference and to share your ideas and practices, develop your knowledge and skills, relax and socialise, and make and renew links with colleagues.

If you need any assistance please don’t hesitate to approach one of the conference volunteers (we’ll be in the purple t-shirts) or visit the registration desk.

The 2014 CCN Conference Committee

Cate Cheetham (Conference Co-Chair)

Julia Kuring (Conference Co-Chair)

Tony Kneebone (Scientific Program Chair)

APS College of Clinical Neuropsychologists Conference
27 – 29 November 2014, National Wine Centre, Adelaide, South Australia
“Better Knowledge, Better Outcomes”

PROGRAM

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**APS College of Clinical Neuropsychologists Conference
27 – 29 November 2014, National Wine Centre, Adelaide, South Australia
“Better Knowledge, Better Outcomes”**

❧ PROGRAM ❧

Program at a glance - Provisional - THURSDAY		
Thursday 27 November 2014		
8:30 - 17:00	Delegate registration	
	<i>The Gallery Room</i>	<i>Exhibition Hall</i>
9:00 – 10:30	Workshop 1 (half day): (Warrick Brewer) Engaging and managing angry young people with acquired brain injury and mental health issues: a six session intervention <i>Chair: John Said</i>	Workshop 3 (full day): (Katherine Martin, Jane McAuliffe, Claudia Kraiuhin) Essentials of capacity assessment: From bedside to tribunal hearings <i>Chair: Rachel Zombor</i>
10:30 – 11:00	<i>Morning Tea</i>	
11:00 – 12:30	Workshop 1 continues	Workshop 3 continues
12:30 – 13:30	<i>Lunch</i>	
13:30 – 15:00	Workshop 2 (half day): (Simon Crowe) A neuropsychologist’s guide to the neurocognitive disorders in the DSM-5 <i>Chair: Emma Scamps</i>	Workshop 3 continues
15:00 – 15:30	<i>Afternoon Tea</i>	
15:30 – 17:00	Workshop 2 continues	Workshop 3 continues

Venue shown in red at top of stream.

[CCN National Executive Committee Meeting](#) 5:30 – 7:30pm (Thursday 27th November 2014). Room 526, Hughes Building, University of Adelaide, North Tce, Adelaide. Please assemble at the entrance of Hickinbotham Hall (downstairs National Wine Centre) at 5:00pm.

Program at a glance – Provisional – FRIDAY	
Friday 28 November 2014	
8:30 - 17:00	Delegate registration
	<i>Hickinbotham Hall</i> <i>The Gallery Room</i>
9:00 – 10:00	<p>Symposium 1: Cogmed: A cognitive training program for working memory and attention. (Discussant: Peter Anderson. Presenters: Leona Pascoe, Megan Spencer-Smith, Izabela Walters) <i>Chair: Bridget Regan</i></p>
10:00 – 11:00	<p>Symposium 2: Is cognitive training an effective treatment option? (Discussant: Nicola Gates. Presenters: M. Castellani, L. Mowszowski) <i>Chair: Bridget Regan</i></p>
11:00 – 11:30	<i>Morning Tea</i>
11:30 – 11:50	<p>Platform paper: Is baseline neuropsychological testing necessary in managing sports related concussion? (Anton Hinton-Bayre) (<i>Hickinbotham Hall</i>) <i>Chair: Arthur Shores</i></p>
11:50 – 13:00	<p>Invited presentation: “Dazed and conflicted”: ethical issues in the management of sports related concussions. (Bradley Partridge) (<i>Hickinbotham Hall</i>) <i>Chair: Arthur Shores</i></p>
13:00 – 14:00	<i>Lunch and Poster Session (Hickinbotham Hall)</i>
14:00 – 15:00	<p>Forum: How do we demonstrate our commitment to evidence based practice in neuropsychology and do we want to? (Panel: Annette Broome, Nicola Gates, Sue Meares, Mathew Summers) <i>Chair: Stephen Bowden (Hickinbotham Hall)</i></p>
15:00 – 15:30	<i>Afternoon Tea</i>
15:30 – 17:00	APS CCN Annual General Meeting (Hickinbotham Hall)
18:00 – 20:00	Cocktail Reception (Exhibition Hall)

Venue shown in red at top of stream or in brackets for single stream.

Program at a glance – Provisional – SATURDAY (page 1 of 2)			
Saturday 29 November 2014			
	<i>Hickinbotham Hall</i>	<i>The Gallery Room</i>	<i>The Broughton Room</i>
8:30 – 8:50		Mini Workshop C: How to survive as an inpatient neuropsychologist in a large general hospital. (Rachel Zombor) <i>Chair: Rochelle Whelan</i>	CCN College Award 2013 Acceptance. Gina Geffen. <i>Chair: Simon Crowe</i>
8:50 – 9:00			Individual papers Session 2: Rehabilitation <i>Chair: Oliver Beadle</i> <ul style="list-style-type: none"> • Impact of premorbid alcohol and substance abuse on outcomes after TBI: a meta-analysis. (David Unsworth, Jane Mathias) • Challenges in implementing a CBT research intervention in young people with acquired brain injury: Psychosocial and pragmatic challenges (Karen Hancock, C. Soo, S. Benson, I. Dinitale, I., & M. Lai,). • Observed strategies on naturalistic memory tasks in amnesic mild cognitive impairment. (Kerryn Pike, G. Kinsella, B. Ong) • Self-awareness of on road driving after TBI. (James Gooden, J. Ponsford, J. Charlton, M. Bédard, S. Marshall, P. Ross, S. Gagnon, R. Stolwyk) • Fitness to drive in dementia: Driver/carer self-report and loss of insight. (Colin Field, Sam Davis)
9:00 – 9:30	Mini Workshop A: Memory training: How to deliver a multi session, group based memory rehabilitation program. (Zoe Thayer, Nora Breen, Laurie Miller) <i>Chair: Rachel Roberts</i>		
9:30 - 10:00		Mini Workshop D: A step by step guide: How to conduct and evaluate meta-analyses for publication. (Nicola Gates & Evrim March) <i>Chair: Linley Denson</i>	
10:00 – 10:30	Mini Workshop B: Assessing parenting skills in brain injured patients and providing recommendations. (Jacqueline Anderson) <i>Chair: Rachel Roberts</i>		
10:30 – 11:00		Special Lecture: Surviving GBM: a neuropsychologist's experience of traditional and patient-centred care. (Fiona Bardenhagen) <i>Chair: Amelia Scholes</i>	
11:00 – 11:30	<i>Morning Tea</i>		
11:30 – 12:30	Grand Round: Neuropsychological interventions- grand round. (Presenters: Genevieve McMahon, Kate Frencham, Oliver Beadle). <i>Chair: Dana Wong</i>	Mini Workshop E: Sensitivity of reliable change indices is complex but predictable. (Anton Hinton-Bayre) <i>Chair: Steven Bowden</i>	Mini Workshop F: Individualised cognitive rehabilitation for clients with mild cognitive impairment and early dementia. (Bridget Regan) <i>Chair: Julia Kuring</i>
12:30 – 13:30	<i>Lunch and Poster Session (Hickinbotham Hall)</i>		

13:30 – 14:30	Invited Lecture: Students and smart drugs: exploring enthusiasm about “academic doping”. (Bradley Partridge) <i>Chair: Tony Kneebone</i>	Mini Workshop J: Behavioural Interventions in Dementia for BPSD. (Nancy Pachana) <i>Chair: Andrew Rothwell</i>	Mini Workshop M: Developing stepped psychological care for people with acquired brain injury. (Ian Kneebone) <i>Chair: Natalia Kukumberg</i>
14:30 – 15:30	Mini Workshop G: “Small four children” Assessment of Primary Progressive Aphasia in everyday practice. (Elizabeth Mullaly, Asawari Henderson) <i>Chair Tony Kneebone</i>	Mini Workshop K: Is use of cognitive screening tools acceptable practice in acute and subacute neuro rehabilitation settings? (<u>Rene Stolwyk</u> , M. O’Neill, A. McKay, D Wong) <i>Chair: Mark Pertini</i>	Individual papers Session 3: Paediatric & Adult Physical & Mental Health <i>Chair: Cate Cheetham</i> <ul style="list-style-type: none"> • Long-term cognitive and psychosocial outcomes of children after liver transplantation in Australia: preliminary findings. (<u>Soheil Afshar</u>, M. Porter, B. Barton, M. Stormon) • Neuropsychological functioning in youth depression. (<u>Joanne Goodall</u>, <u>Caroline Fisher</u>, S. Hetrick) • Wernicke-Korsakoff syndrome without alcohol: a systematic psychometric review. (<u>Simon Scalzo</u>, Stephen Bowden) • Neuropsychological issues in understanding idiopathic generalised epilepsies (IGE). (<u>Amy Loughman</u>, Stephen Bowden, W. D’Souza) • Emotion recognition in premanifest Huntington’s disease. (<u>Jonathon Foster</u>, C. Pestell, P. Panegyres, M. Tedesco, W.Lu, J. Mills, J. Paulsen) • Aggression in Huntington’s disease. (<u>Caroline Fisher</u>, A.Brown, K.Sewell)
15:30 – 16:00	Mini Workshop H: Challenges in acute setting neuropsychology service provision: a case illustration. (Jane McAuliffe) <i>Chair: Carla Johnston</i>	Mini Workshop L: Case formulation in ABI How a cognitive behaviour therapy framework can help. (Adam McKay, Dana Wong) <i>Chair: Mark Pertini</i>	
16:00 – 16:30	Mini Workshop I: Neuropsychology Scoring Tool prototype. (James Lewis, Marina Cavuoto) <i>Chair: Carla Johnston</i>		
16:30 – 17:00	Conference Close & Prizes (<i>Hickinbotham Hall</i>)		

Venue shown in red at top of stream or in brackets for single stream.

Workshops

1. Engaging and managing angry young people with acquired brain injury and mental health issues: a six session intervention. (3 hours)

Presented by Associate Professor Warrick Brewer
University of Melbourne, Department of Psychiatry

Brewer, W. (University of Melbourne; Private Practice); Murphy, B. (Monash University)
w.brewer@neuropsych.com.au

Abstract: Engaging antisocial clients presents considerable difficulty, particularly when the impact of ABI and/or mental illness exacerbates premorbid personality traits. The function of anger especially is often misunderstood, where the diagnosis of antisocial personality essentially reflects a description of behaviour rather than an understanding of aetiology. Hence, aggressive behaviour commonly presents a significant hurdle to engagement and treatment response. In this context, relying upon anger 'management' techniques proves less effective relative to assisting clients to reframe and understand the source and function of their anger and then to assist them to release anger as a valuable motivational source towards achievement of functional goals.

This workshop will provide practical examples of how to assist clients with ABI or mental illness (or adults with arrested emotional development) in acquiring basic principles of emotional intelligence, including recognition and articulation of the emotional self and establishment of a structured self-identity. The impact of common threats to healthy developmental trajectories will be discussed, where strategies on how to formulate the relative impact of genetic risk, brain injury, cognitive ability, environmental compromise, personality and substance use on acute clinical presentations will be provided.

The workshop draws upon published material from a pioneering clinical-research youth mental health neuropsychology program with a focus on clients with a forensic history. The presenter's research on emotion dysregulation in neurodevelopment includes findings in Autism-spectrum, ADHD, Psychosis, OCD and Antisocial Personality disorders and this informs the material presented.

Finally, a 6-session In Press treatment manual for engaging and managing difficult clients that is based upon neuropsychological principles of neurodevelopment will be detailed.

Biography: A/Prof Warrick Brewer works full time in private practice as a Neuropsychologist, specializing in assessment and treatment of antisocial clients with a history of substance abuse and head injuries; he is an Honorary Associate Professor & Principal Research Fellow in the University of Melbourne Department of Psychiatry and also in the Centre for Youth Mental Health, located at ORYGEN Youth Health- Parkville, where he pioneered a Youth Mental Health Neuropsychology Service. He also pioneered the specialist Intensive Case Management Team for the Early Psychosis Prevention & Intervention Program. He has over 100 publications.

2. A neuropsychologist's guide to the neurocognitive disorders in the DSM-5. (3 hours)

Presented by Professor Simon Crowe, BBSoc (Hons), BSc, MSc, Grad Dip Bus, PhD, FAICD, FAPS, FNAN(US)
La Trobe University, School of Psychological Science

Crowe, S. F. (La Trobe University)

s.crowe@latrobe.edu.au

Abstract: The DSM-5 contains substantial changes from the DSM-IV-TR that reflect increases in knowledge about the various conditions that affect cognition. This workshop will outline the substantive changes that have occurred in the current version of the Manual as well as undertake an in depth analysis of the diagnostic criteria for neurocognitive disorders (NCDs) in the DSM-5. These include new diagnostic criteria for NCDs due to Alzheimer's disease, frontotemporal degeneration, traumatic brain injuries, vascular disease, Lewy body disease, Parkinson's disease, and other aetiologies, and delirium, which will each be covered in depth. The workshop will cover the diagnostic criteria for major and mild NCDs, the specifications for "probable" vs. "possible" causes of NCDs included in the DSM-5, and the DSM-5's six cognitive assessment domains. The workshop will focus on the increased prominence of neuropsychological assessment within the Manual as well as the neuropsychological assessment issues associated with the distinction between mild versus major NCD and the statistical confidence parameters associated with the respective conditions.

After the workshop, participants will be able to:

1. Describe the major developments in the DSM-5.
2. Describe the difference between mild vs. major Neurocognitive Disorder (NCD).
3. Describe the diagnostic criteria for the different NCDs.
4. Explain the diagnostic criteria for "probable" vs. "possible" causes of the different NCDs.
5. Discuss the implications for neuropsychological assessment of the different NCDs, including the six cognitive domains to be assessed in the diagnosis of NCD.

Biography: Simon Crowe is currently the Chair of the Academic Board of La Trobe University and has been Head of the School of Behavioural Science (2001-2007) at La Trobe and was Deputy Chair of Academic Board from 2010-2012. Professor Crowe completed his undergraduate studies in psychology and biology at La Trobe University and his postgraduate studies at La Trobe and at the University of Melbourne. He is immediate President of the Australian Psychological Society (APS: 2010-2012) and was on the Board of the APS from 2006-2009. He was Chair of the Heads of Department and Schools of Psychology Australia (HODSPA) in 2005. He is a fellow of the APS, the National Academy of Neuropsychology (US) and the Australian Institute of Company Directors. He is a member of the APS Colleges of Clinical Psychology, Clinical Neuropsychology and Forensic psychology. He is a past editor of the Journal, *Australian Psychologist* (2001-2005) and is current desk editor of the Journal for the neuropsychology area. Professor Crowe was also President of the Alcohol Related Brain Injury Assessment and Support Service (ARBIAS) from 1994-1999, and was made a Life member of ARBIAS in 2000. Professor Crowe has been extensively involved in the psychology curriculum for upper secondary education and was Chief examiner for year 12 Psychology in Victoria from 2003-2004.

Professor Crowe maintains strong research programs in the biological basis of memory formation as well as conducting studies into the neuropsychology of neuropsychiatric disorders and a variety of neuropsychological assessment issues. He has published three monographs, more than 100 refereed journal articles and numerous book chapters, conference presentations, notes and commentaries. He has been granted more than \$1.5M of competitive research income. He has supervised more than 40 doctoral degree candidates (PhD and DPsych) as well as numerous Masters and fourth year theses. He continues to conduct and extensive private practice largely in the area of medico-legal disputation and is an independent neuropsychological examiner for the Workcover Authority and the Transport Accident Commission in Victoria.

3. Essentials in capacity assessment: From bedside to Board hearing. (6 hours)

Presented by: Katherine Martin, Guardianship Division NSW Civil & Administrative Tribunal, War Memorial Hospital & Macquarie Hospital, NSW; Jane McAuliffe, Guardianship Division NSW Civil & Administrative Tribunal, Hornsby Kuringai Hospital & Mt Wilga Private Hospital NSW; Claudia Kraiuhin, NSW Central Coast Local Health District.

Martin, K. (Guardianship Division NSW Civil & Administrative Tribunal, War Memorial Hospital & Macquarie Hospital, NSW), McAuliffe, J. (Guardianship Division NSW Civil & Administrative Tribunal, Hornsby Kuringai Hospital & Mt Wilga Private Hospital NSW), & Kraiuhin, C. (NSW Central Coast Local Health District).

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Abstract: An increasing number of referrals to neuropsychology seek an opinion regarding a person's capacity. This workshop aims to equip neuropsychologists with theoretical and practical information to improve the reliability and validity of capacity assessments and the usefulness of capacity assessment reports. Lifestyle decision making capacity, financial management, and testamentary capacity relating to Power of Attorney and Guardianship are addressed specifically. The limitations of a strictly cognitive understanding of capacity as well as the limitations of standardised testing are discussed, including their impact on bedside assessments of hospitalised patients, who are often assessed under far from ideal testing conditions. The workshop describes how capacity assessments are different to other types of neuropsychological assessment, when a capacity assessment by a neuropsychologist is/is not required, what information needs to be obtained before proceeding with a capacity assessment and what adjustments can be made to more effectively determine capacity. Many capacity assessment referrals are associated with applications to state Civil and Administrative Tribunals for the appointment of a guardian or financial manager. The guardianship application and hearing process and the level of involvement by neuropsychologists and their reports at each stage is outlined in depth. "Behind the scenes" insights provide additional practical tips to assist in assessment and report writing. Participants actively apply workshop content to capacity assessment and report writing formulation during Case Scenario breakout groups. Complex cases such as those concerning younger people, dual diagnosis and those with fluctuating cognitive states are also discussed.

Background preparation: familiarisation with the Guardianship Act and the Power of Attorney Act relevant to the participant's State or Territory is strongly recommended.

Biography: Katherine Martin is a Clinical Neuropsychologist with over 20 years' experience of work in aged care, rehabilitation and mental health settings. She is currently working in geriatric rehabilitation, psychogeriatrics and as a Senior Member (professional) of the Guardianship Division, NSW Civil and Administrative Tribunal.

Jane McAuliffe is a Clinical Neuropsychologist with over 25 years' experience in acute, rehabilitation, aged care and mental health settings. She is currently working in aged care and adult rehabilitation and is involved in dementia treatment clinical trials. She has been a Senior Member (Professional) of the Guardianship Division, NSW Civil and Administrative Tribunal since 2010.

Claudia Kraiuhin is a Clinical Neuropsychologist with over 20 years' experience of work in research, rehabilitation and adult neuropsychology. For the last 10 years, the majority of hospital inpatient work has been performing or advising about capacity assessments.

Invited Presentations

Invited Presentation: “Dazed and conflicted”: ethical issues in the management of sports related concussions.

Presented by Dr Bradley Partridge, BPsych (Hons), PhD
The University of Queensland Centre for Clinical Research (UQCCR)

Partridge, B. (UQCCR)
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Concussion management policies have become a major priority for sports that involve frequent collisions between participants, including Australian Football, Rugby League and Rugby Union. However, important ethical issues in the development and implementation of concussion management guidelines pose a significant barrier to the proper identification and management of concussion in sport at the professional and community level (amateurs and juniors). Autonomy in decision making, informed consent to participate in risky activities, coercion, and conflicting interests all present difficulties when diagnosing and managing concussion. Failure to address these ethical issues undermines the protection of participants from the short and long term effects of concussion. This talk will explore some of the ethical and evidential issues related to concussion management in several areas, including: 1) game day diagnosis and management, and 2) recommendations to use commercially available computerized neuropsychological tools for assessing concussed athletes.

Invited Lecture: Students and smart drugs: exploring enthusiasm about “academic doping”.

Presented by Dr Bradley Partridge, BPsych (Hons), PhD
The University of Queensland Centre for Clinical Research (UQCCR)

Partridge, B. (UQCCR)
b.partridge@sph.uq.edu.au

Discussions about the acceptability of using drugs for enhancement and the regulation of this practice have increasingly focused on a paradigm example: the use of prescription stimulants as a study aid by university students, also known as “academic doping”. The assumed efficacy of so-called “smart drugs” has fuelled hyped media portrayals of healthy students without any diagnosed disorder increasingly using drugs such as methylphenidate to increase their alertness, concentration or memory, in the belief that they will improve their performance during examinations or when studying. Some high profile neuroscientists and bioethicists have also expressed enthusiasm for enhancement, concluding that this is a trend in universities across the globe that perhaps should be facilitated. However, empirical evidence of an epidemic of smart drug use is weak and in this talk I will present an overview of the evidence regarding student use of, and attitudes towards, prescription drugs for cognitive enhancement. It is hoped that deflating the cognitive enhancement bubble will help to ensure that ethical discussions about this form of drug use are better informed and policy directions are responsible.

Biography: Dr Brad Partridge is an NHMRC Research Fellow with the Neuroethics Group at The University of Queensland Centre for Clinical Research (UQCCR). His work spans a number of areas related to ethics, public health and social science. Brad’s background is in psychology (B Psych Hons) and his PhD was through the School of Population Health at The University of Queensland. Brad has previously been a postdoctoral fellow with the Bioethics Research Unit at Mayo Clinic (Minnesota, USA) and a visiting researcher with the Neuroethics Research Group at the Institut de Recherches Cliniques de Montreal (IRCM) in Montreal, Canada.

Symposium 1: Cogmed: A cognitive training program for working memory and attention.

Discussant: Anderson, P. (Murdoch Childrens Research Institute, University of Melbourne)

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This symposium will focus on Cogmed, a commercial cognitive training program designed to improve working memory and attention. The program is gaining popularity in Australia, and the hype has filtered through to the community with many parents of struggling children actively seeking access to Cogmed. Access to the Cogmed program is via Cogmed coaches, who are health professionals accredited by *Pearson*. Some schools are also offering the program to selective students, while others are administering it to whole classes. This symposium will commence with a presentation that provides a background to cognitive training, with a focus on the principles underpinning cognitive training. The second presentation will describe the Cogmed program in detail, while the third presentation will discuss whether or not Cogmed works by presenting the results of a recent meta-analysis. The final presentation will provide the perspective of a Cogmed coach who utilises this program in her private practice. The discussion will focus on the pros and cons of Cogmed, as well as what is and is not known about the program.

Principles of cognitive training

Anderson, P. (Murdoch Childrens Research Institute, University of Melbourne)

peter.anderson@mcri.edu.au

Cognitive training is an emerging field that is quickly gaining popularity. Cognitive training is based on the premise that cognitive skills can be enhanced with intensive and repetitive practice. There are numerous commercial and free cognitive training programs available on the internet, while some programs can only be sourced via accredited health professionals. Most of the programs aim to improve attention or memory, but few have research level efficacy. While the approach of cognitive training programs can vary, there are some general principles. This presentation will provide a background to how these basic principles of cognitive training evolved and how they are integrated into popular training programs.

The Cogmed program

Pascoe, L. (Monash University, Murdoch Childrens Research Institute)

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Cogmed is the most widely known cognitive training program. It aims to improve working memory and attention through repetitive and intensive training. Unlike most cognitive training programs, Cogmed was initially developed from systematic research and has been the subject of numerous published trials. Various versions of Cogmed are available, suitable for pre-schoolers through to older adults. The program involves a coach, an accredited health professional, who guides the client through the program. In this presentation the structure of the Cogmed program will be described including the accreditation process for Cogmed coaches, the principles of the program, start-up sessions for clients, the intervention activities, techniques to enhance compliance, and monitoring performance. Experience in using Cogmed in clinical research trials with school-aged children will be provided, with a specific focus on burden to the family and the child's compliance.

Benefits of Cogmed for inattention in daily life: a systematic review and meta-analysis

Spencer-Smith, M. (Karolinska Institutet, Murdoch Childrens Research Institute), & Klingberg, T. (Karolinska Institutet)

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Many common disorders across the lifespan feature impaired working memory (WM). Reported benefits of a WM training program include improving inattention in daily life, but this has not been evaluated in a meta-analysis. We evaluated whether one WM training program, Cogmed, has benefits for inattention in daily life by conducting a systematic review and meta-analysis. We searched electronic databases, journals and contacted authors. Of the 622 studies identified, 12 studies with 13 group comparisons met inclusion criteria. A meta-analysis calculated the pooled standardised difference in means (SDM) between intervention and control groups. The meta-analysis showed a

significant training effect on inattention in daily life, $SDM = -0.47$, 95% CI $-0.65, -0.29$, $p < 0.001$. Subgroup analyses showed this effect was observed in groups of children and adults as well as individuals with and without ADHD, and in studies using control groups that were non-adaptive, wait-list and passive as well as studies using specific or general measures. Seven of the studies reported follow-up assessment and a meta-analysis showed persisting training benefits for inattention in daily life, $SDM = -0.33$, 95% CI $-0.57, -0.09$, $p = 0.006$. Initial evidence demonstrates that benefits of the Cogmed program generalise to improvements in inattention in daily life with a clinically relevant effect size.

Cogmed in private practice

Walters, I. (Train Your Brain Learning Centre)

izabela@wetrainyourbrain.com

This presentation will cover the practical aspects of offering Cogmed in private practice. This includes an overview of the coaching process and insights into Cogmed training from the perspectives of the trainee, the training aide, and the coach. Issues arising in the course of coaching are reviewed. The author also addresses the business aspects of running a practice devoted to cognitive training.

Where to from here?

Anderson, P., & Spencer-Smith, M.

Symposium 2: Is cognitive training an effective treatment option?

Discussant: Gates, N.J. Centre for Healthy Brain Aging, School of Psychiatry, UNSW

n.gates@unsw.edu.au

Is cognitive training an effective treatment option for cognitive decline?

There has been an exponential rise in the number of clinical trials of cognitive training (CT), and a proliferation of commercially available programs due to consumer demand. Consequently it is recommended that CT attain the same rigorous research standards and efficacy criteria as pharmacological treatments. This symposium presents research from 4 trials of CT in adults, and critically evaluates the research field to date. Evidence of immediate treatment benefit, transfer to non-trained function, persistence of benefit over time, and potential neuroplastic mechanisms will be presented with reference to research conducted in the past ten years. Importantly, this symposium addresses issues in clinical service delivery and treatment evaluation to facilitate the development and implementation of clinical trials and treatment programs.

Preliminary results: A randomised controlled trial of computerised cognitive training in older adults.

Castellani, M., Lewis, J., Ong, B., & Kinsella, G. (La Trobe University)

mbcastellani@students.latrobe.edu.au

There is much interest in whether computerised cognitive training exercises can maintain, or improve, cognitive function as we age. Despite improvements on trained tasks, few studies demonstrate benefits in inherent abilities. This randomised controlled study selectively trained abilities known to decline with older age, using an online computerised training program that participants accessed from their own home. Healthy older adults (age range = 60-88) were randomised into three training groups: spatial working memory, set-shifting, and an active control. Participants completed an average of 37 daily sessions of online training, over 8-10 weeks. Pre-post neuropsychological and experimental tests were administered to assess transfer of training. Preliminary data analysis from 70 participants demonstrated improvements in the training tasks. Group differences were demonstrated for the set-shifting training group on an experimental shifting task ($\eta^2 = 0.23$, $p < .001$), and for the spatial working memory group (Coding Subtest, WAIS-IV; $\eta^2 = 0.24$, $p < .001$), relative to other groups. At this stage results suggest some transfer of training gains. However, a broader range of subjective and far transfer measures have yet to be evaluated, as this study is still in progress.

Effects of a healthy brain ageing cognitive training program in older adults 'at risk' of dementia, and in patients with Parkinson's disease
Mowszowski, L, Diamond, K. & Naismith, S.L. (Healthy Brain Ageing Program, Brain and Mind Research Institute, The University of Sydney)
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Research suggests that Cognitive Training (CT) is a safe and engaging intervention to improve cognitive and psychosocial functioning in those with prodromal or early-stage neurodegenerative disease. Two studies investigated the efficacy of a seven-week 'Healthy Brain Ageing' CT program in older adults 'at-risk' of developing dementia (Study 1), and in patients with Parkinson's disease (PD; Study 2). Study 1: 40 'at-risk' participants completed baseline and follow-up neurophysiological, neuropsychological and psychiatric assessments, and were randomised to the CT program or waitlist (control) group. Study 2: 50 participants with PD completed neuropsychological and neurological assessments before and after the CT program or waitlist period. Study 1: the CT treatment group demonstrated enhanced fronto-central MMN responses (compared to decreased responses in the control group ($p < 0.05$)), improved phonemic verbal fluency ($p < 0.05$) and decreased self-rated memory difficulties ($p < 0.05$). Study 2: CT was associated with significant improvements in learning and memory ($p < 0.05$). Study 1 is the first known application of the MMN paradigm following CT in 'at-risk' older adults. Enhanced MMN suggests increased efficiency of pre-attentive processing following CT, possibly reflecting alterations in underlying neurobiology. Study 2 provides novel support for the use of CT to improve memory in people with PD.

Results of SMART: A randomised trial of resistance and cognitive training in adults at risk of dementia.

Gates, NJ, Maria A Fiatarone Singh, Nidhi Saigal, Guy C Wilson, Jacinda Meiklejohn, Perminder S Sachdev, Henry Brodaty, Wei Wen, Nalin Singh, Bernhard T Baune, Chao Suo, Michael K Baker, Nasim Foroughi, Yi Wang, Michael Valenzuela. Centre for Healthy Brain Ageing, School of Psychiatry, UNSW
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Physical and cognitive interventions to prevent cognitive decline are increasingly recommended. The Study of Mental and Regular Training (SMART) is the first randomized, double-blind, double sham-controlled trial to investigate the effects of multi-domain cognitive training (CT) and high intensity progressive resistance training (PRT) in Mild Cognitive Impairment. 100 adults completed supervised PRT and CT 2-3 d/wk for 6 months with follow-up at 18 months. Mixed model analyses indicated PRT was associated with significant benefits for global function (ADAS-Cog; $p = 0.046$) and Benton Visual Memory ($p = 0.044$) after training, and executive function (WAIS Matrices; $p = 0.016$) over 18 months. Normal ADAS-Cog scores were achieved in 48% after PRT vs. 27% of those without PRT [$p < 0.025$; OR 3.5 (1.18, 10.48)]. CT maintained Memory Domain score compared to declines without CT at 6 months ($p = 0.014$), with no difference over 18 months. Both interventions were associated with small significant improvements in mood and quality of life.

Forum: How do we demonstrate our commitment to evidence based practice in neuropsychology and do we want to?

Session Chair: Stephen Bowden - School of Psychological Sciences, University of Melbourne.

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Invited Panel: Annette Broome, Psychology Department, Princess Alexandra Hospital, Metro South Health, Queensland and School of Psychology, University of Queensland.

Nicola Gates, Private Practice and Centre for Healthy Brain Ageing, University of New South Wales.

Sue Meares, Department of Psychology, Macquarie University and Brain Injury Service, Westmead Hospital.

Mathew Summers, School of Medicine, University of Tasmania and Wicking Dementia Research and Education Centre.

Accountability in health care is receiving greater attention and increasingly is impacting on the provision of psychological services in Australia. Accountability takes many forms and in different contexts may seek to achieve disparate goals. One aspect of accountability in health care that is widely discussed but lacking in clear definitions in psychology involves the provision of *evidence-based practice*. There is a view sometimes expressed that if neuropsychology is to advance its service provision potential in Australia, then we need to have stronger mechanisms by which to demonstrate our commitment to evidence-based practice. In this symposium, a panel of clinicians and clinical teachers will reflect on the implications of evidence-based practice and how we as neuropsychologists might more effectively advocate for the needs of our clients by demonstrating our

commitment to evidence-based neuropsychology. Academic-training, hospital management, clinical research and direct service-provision implications will be canvassed. The intention of the forum is to provide an opportunity for audience participation and panel presentations will be kept brief, to encourage participation from the audience. One of the aims of the forum is to identify directions for future advocacy of neuropsychological services as evidence-based, and to identify potential quality assurance mechanisms by which we may monitor the provision of neuropsychological services.

Special Lecture: Surviving GBM: a neuropsychologist's experience of traditional and patient-centred care.

Bardenhagen, Fiona.

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This presentation will discuss a neuropsychologist's experience of traditional and patient-centred care in the context of treatment for glioblastoma multiforme (GBM), and explore the implications and opportunities for neuropsychological practice. Traditional care was generally characterised by supportive attitudes and practices, but was also perceived to be driven by standard procedures and protocols. It was reassuring and appreciated during periods of significant illness when the ability to actively engage in treatment decisions was low. A patient-centred approach to outpatient rehabilitation gave a sense of engagement, motivation, empowerment, and achievement. This approach would have been difficult to apply during times of acute illness or postoperative recovery. Consumer experiences of receiving healthcare services can provide valuable insights for clinicians, perhaps particularly so if the patient is also a clinician.

Grand Round: Neuropsychological interventions- grand round.

Wong, D., (Monash University & Private Practice) – Chair & Discussant

McMahon, G., (Diverge Consulting), Frencham, K., (Judith Adrian and Associates & Private Practice), & Beadle, O., (Private Practice).

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Neuropsychologists are well placed to provide psychological interventions to people with acquired brain injury given our specialized knowledge of the potential cognitive, behavioural, emotional changes that can occur and their interaction with the individual's social and physical environment. To maximize their effectiveness, interventions such as counselling, behaviour management and systemic change need to be tailored and often adapted to meet individual needs. Three diverse case studies will be presented in this forum to illustrate some of the opportunities and complexities of providing neuropsychological interventions to people with ABI living in the community. Using a biopsychosocial framework to guide formulation of the presenting issues, each case will outline a process of determining the available and potentially effective options for the neuropsychologist in facilitating change. Planning and providing support in the long-term context, regardless of the stage of recovery will also be highlighted.

The first case explores the role of the neuropsychologist in paediatric rehabilitation working with a 4-year-old with "impulsive and aggressive" behaviour following a severe traumatic brain injury as an infant. The importance of educating both family and support staff about the potential causes of behaviour and engaging their assistance in developing appropriate interventions will be described.

The second case describes a positive behaviour intervention with a young man living in a supported accommodation ten years post severe traumatic brain injury. Intervention involved guiding culture change for the facility so they could support him to transition into a greater number of age appropriate roles in a more independent manner.

The third case explores the challenges of assisting a 32 year old woman with significant cognitive impairment develop new meaningful life roles eight years following a severe traumatic brain injury in the context of persistent family upheaval.

Mini Workshops

Mini Workshop A: Memory training: How to deliver a multi session, group based memory rehabilitation program.

Thayer, Z. (Royal Prince Alfred Hospital; University of Sydney), Breen, N. (Royal Prince Alfred Hospital; Macquarie University), & Miller, L. (Royal Prince Alfred Hospital; University of Sydney)

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Mini Workshop B: Assessing parenting skills in brain injured patients and providing recommendations.

Anderson, J.F.I. (The University of Melbourne)

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Increasingly clinical neuropsychologists are being asked to assess patients' parenting skills and provide recommendations about whether they have capacity to parent effectively and/or safely. Referring agents are also usually interested in finding out how patients may improve their parenting skills. This mini-workshop will provide a clear rationale for how and when to assess parenting ability as well as guidance on how to make clear and appropriate recommendations to referring bodies about an individual's ability to parent. The importance of considering both psychological and cognitive factors will be emphasised. The usefulness as well as limitations of neuropsychological assessment in this area will be considered. Medico-legal considerations will also be addressed. Case examples will be used to illustrate the process and attendees will have the opportunity to work through case examples in groups. Attendees should bring pen and writing material, or laptop (etc.) to the workshop to facilitate the group work.

Mini Workshop C: How to survive as an inpatient neuropsychologist in a large general hospital.

Zombor, R. (Sir Charles Gairdner Hospital & Neurosciences Unit, WA Department of Health)

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Working as a neuropsychologist in a busy general hospital can be chaotic, unpredictable and daunting. However, it can also add significant value to patient management and be personally very rewarding. This practical workshop aims to equip you to be able to successfully operate as a neuropsychologist in an acute hospital. It will cover several areas including:

- Navigating the system: What is an RMO? And who is the CNS? What does "Pt SOOB in HBC @TOR...Mob 1xmin(A)-SB(A) amb 4WW" mean? Which file do I write in? What's an electronic consult?
- Triaging referrals: Who does this? What does this mean? How do I know if neuropsychological input is needed or appropriate? How do I determine urgency and prioritisation?
- Testing issues: How do I validly assess an unwell patient by the bedside, in a four bedded room, in 60 minutes?
- Communicating results & recommendations: I don't always need to write a report?! How, what and when to communicate to the treating team.
- Infection control: Learn what "VRE"; "MRSA"; "they're carded"; and "you'll need to glove up and gown up" means. And why you need to know. Also learn when and what precautions you should take as a neuropsychologist.

Prior knowledge: This session is aimed at the advanced student or early career neuropsychologist. It may also be relevant to more experienced neuropsychologists who have not worked in an acute general hospital setting. Learning materials supplied: Handouts of PowerPoint slides, tip sheets and reference list.

Mini Workshop D: A step by step guide: How to conduct and evaluate meta-analyses for publication.

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Meta-analysis refers to a synthesis of combined results from multiple studies with a view to increase the power of independent findings. Meta-analyses studies provide level 1 class of evidence, and are increasingly required for grant funding by the NHMRC. This mini workshop aims to provide a practical framework to undertaking a systematic review and meta-analysis, and the means to interpret published meta-analysis studies. It will explain the necessary steps including initially determining research need / rationale for review, data collection, analysis, assessment of bias, and critical evaluation. Attendees will receive a handout of the information provided and be equipped with a basis to extend current skills to perform meta-analysis research in neuropsychology.

Mini Workshop E: Sensitivity of reliable change indices is complex but predictable.

Hinton-Bayre, AD. (School of Surgery, University of Western Australia)

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Reliable Change Indices (RCIs) evaluate statistically significant change in the individual when repeatedly tested, but there is no consensus on which is the most valid or sensitive. RCI models share a fundamental structure where only the predicted score and standard error differ for each model. The present study systematically manipulated variables known to influence RCI outcome to evaluate sensitivity; including differential practice (inequality of baseline and retest control variance), reliability, and relative position of an individual to the control baseline mean. Of the three RCI models evaluated – each accounting for mean practice effects (Iverson RCI, Maassen RCI, McSweeny RCI) – each was most sensitive under prescribed variations in test-retest parameters and individual relative position at baseline. Adequate reliability was paramount to improving sensitivity. RCI models converge when baseline and retest variances are comparable and the individual performs at the baseline control mean. While RCI methodology has gained popularity in the neuropsychological literature the present study highlighted limitations that could only be clearly elucidated with systematically manipulated data. There is a relatively complex interplay of factors that determine which RCI model will be most sensitive based on control retest data and individual baseline data.

Mini Workshop F: Individualised cognitive rehabilitation for clients with mild cognitive impairment and early dementia.

Regan, B (Monash Ageing Research Centre, Monash University and Monash Health)

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MONARC (Monash Ageing Research Centre), in conjunction with Alzheimer's Australia VIC, the Lincoln Centre for Research on Ageing and La Trobe University, Alfred Health, Austin Health, Eastern Health, Monash Health and Peninsula Health, have recently finished recruitment for a randomised control trial of a face-to-face cognitive rehabilitation intervention.¹ The MAXCOG intervention was semi tailored to dyads (the person with cognitive impairment and a supporter) and was based on work undertaken by Linda Clare in which she was able to demonstrate significant improvements in goal outcomes for clients with early dementia using client-specific goals.² The MAXCOG intervention involved four sessions utilising an intervention plan developed by the research team. The main objective of the intervention was to teach a range of new strategies to help manage cognitive impairment in daily life. Secondary goals included facilitating psychological adjustment and promoting adaptive coping strategies, sense of self and social value. MAXCOG content was based on a set of information handouts recently developed by our project team at La Trobe University and the Kingston Centre.

http://www.monashhealth.org/page/Research/monarc/MAXCOG_Maximising_Cognitive_Abilities/

This mini workshop will provide an overview of the interventions undertaken as part of the MAXCOG study including some illustrative case studies. It aims to assist those who are considering this type of approach with their clients and will include a step-by-step guide to delivering an intervention. The discussion will include reference to some of the more challenging aspects of the intervention experienced when delivering the MAXCOG intervention, including the management of 'insight' issues and the need for careful approaches to facilitate goal development. Opportunities for questions and discussion will be provided throughout the presentation.

¹This study was funded by the Alzheimer's Australia Dementia Research Foundation (VIC) and the Lions John Cockayne Memorial Fellowship Trust Fund.

²Claire, L., Linden, D.E., et al. Goal oriented rehabilitation for people with early stage Alzheimer's disease: a single-blind randomised controlled trial of clinical efficacy. *Am J Geriatr Psychiat* 2010; 18(11): 988-939

Mini Workshop G: "Small four children" Assessment of Primary Progressive Aphasia in everyday practice.

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Many neuropsychologists work in memory clinics, outpatient neurology clinics and private practice settings where they are referred patients with possible progressive language disturbance. Often access to speech pathology and, in particular, specialist speech pathology services is limited. There has been an explosion of research recently about the distinguishing clinical features of the various Primary Progressive Aphasia subtypes with increasingly sophisticated descriptions of symptoms. New assessment tools to measure speech and language disturbance, many of which can be downloaded on line, have also become available through research groups or have been described in recent research papers. In clinical practice, patients arrive in neuropsychologists' consultation rooms with language symptoms that vary from early or questionable through to more advanced stages, and referrers do not always signal language disturbance in referral letters. As such neuropsychologists need to have ready access to, and familiarity with, a wide range of assessment instruments and the knowledge to interpret results obtained. This mini-workshop will provide a brief review of recent research but will concentrate on discussing practical approaches to assessment, including which tests are appropriate in which circumstances, which normative data is available, which old tests are worth reclaiming from the back of the test cupboard and which new tests are worth purchasing or downloading. Participants will be provided with a helpful take away resource that takes some of the guesswork out of preparing for such assessments and formulating diagnoses.

Mini Workshop H: Challenges in acute setting neuropsychology service provision: a case illustration.

McAuliffe, J. (Hornsby Kuringai Hospital, Mt Wilga Private Hospital, Guardianship Division NSW Civil & Administrative Tribunal)
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By following a case of Wernicke Korsakoff Syndrome (WKS) from referral to discharge this presentation addresses many of the challenges encountered by neuropsychologists providing services in large acute hospital settings. This case demonstrates that challenges in acute neuropsychology are not restricted to diagnosis and assessment. Challenges also relate to practical issues of patient care and service provision and often include philosophical and ethical considerations. Specific issues addressed include: dealing with pressures from medical teams and hospital administration; when to start testing; when to stop testing; establishing the facts in patients with memory disorders and confabulation; how neuropsychology can support discharge timing; the contribution of the neuropsychology assessment to Guardianship applications; and dilemmas associated with patient confidentiality. The case highlights how the neuropsychologist's knowledge of brain behaviour relationships, features of particular syndromes and patterns of recovery can contribute in practical ways to frontline management of patients in the acute hospital setting. Through this case of WKS, neuropsychologists are reminded of the need to constantly review their ethical approach to assessment practices and patient treatment, particularly in cases of rare or clinically fascinating presentation.

Mini Workshop I: Neuropsychology Scoring Tool prototype.

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Over the past three years, a number of students from La Trobe University have been working together on an automatic scoring tool for many neuropsychological tests. An interactive demonstration on how to use the various features will be given. The prototype software is able to calculate standard scores, indices, reliable change and base rates for many commonly used neuropsychological tests including measures of intelligence, executive functioning, memory, mood and personality. It also can produce graphs and

summary printouts for assessments and has the capability to integrate web-based questionnaires. For private practitioners, the software is able to securely store and retrieve client test results, which will be demonstrated in the workshop. Attendees are invited to bring de-identified test results to use as part of the interactive demonstration. Practical implications and directions for further development will be discussed.

Mini Workshop J: Behavioural Interventions in Dementia for BPSD.

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Evidence from meta-analyses of survey data suggests that the prevalence of dementia among Australians aged 65 years or older is between 5.3% to 7.6% (Australian Institute of Health and Welfare, 2006), and the prevalence of dementia is expected to triple in Australia by 2051 (Alzheimer's Australia, 2003). Psychological and behavioural interventions are quite effective in managing some of the most challenging symptoms of dementia, that is, the behavioural and psychological symptoms of dementia (BPSD). BPSD represent a heterogeneous range of psychological reactions and behaviours resulting from dementia. Approximately 90% of dementia patients will experience at least one such symptom over the course of their illness (Craig, Mirakhor, Hart, McIlroy, & Passmore, 2005). Uncontrolled BPSD result in excessive disability, increased rates of hospitalisation and premature institutionalisation, as well as substantial challenges for the family and carers, as well as poor quality of life for the person with dementia. BPSD are often unpredictable and can vary over the course of dementia. Behaviours can manifest differently in various subtypes and stages of dementia. Ascertaining presence and where possible, causes of BPSD are important skills not only for neuropsychologists, but also for the care staff and families who consult them. Ascertaining causes and developing tailored and effective interventions for BPSD should be understood in a way that can be shared with nursing staff and families. This mini-workshop reviews BPSD in general, variations across subtypes of dementia, presents the NPI as a tool to measure and monitor BPSD, discusses a simple clinical structured assessment to try to ascertain cause of a particular BPSD, and introduces a frame by which tailored interventions can be devised and carried out either in the home or in the nursing facility. Case examples from the presenter's practice are offered, and attendees are invited to share their own cases.

Mini Workshop K: Is use of cognitive screening tools acceptable practice in acute and subacute neuro rehabilitation settings?

Stolwyk, R., (Monash University), O'Neill, M., (Monash University), McKay, A., (Monash University)
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The high prevalence and significant negative impact of cognitive impairment on long-term outcome following acquired brain injury is well recognised. In response, many national governing bodies such as the National Stroke Foundation now recommend routine cognitive screening as best clinical practice to detect cognitive dysfunction. However, use of cognitive screening, as opposed to formal neuropsychological assessment methods, is controversial. Firstly in this workshop, traditional and more recently developed cognitive screening tools used in neurorehabilitation settings are presented and critically reviewed. Secondly, results from a comprehensive systematic literature review (SLR) investigating the sensitivity and specificity of screening measures to detect cognitive impairment in stroke are presented. Results from this SLR indicate sensitivity and specificity of many commonly used cognitive screenings tools do not meet acceptable standards. The limited evidence-base to support use of cognitive screening in stroke clinical settings is also highlighted. Thirdly, broader issues relating to the use of cognitive screening practices in neurorehabilitation settings are discussed in an interactive format. This includes a consideration of the advantages and disadvantages of cognitive screening procedures; existing and potential roles of clinical neuropsychology in cognitive screening; consideration of how cognitive screening and formal neuropsychological assessments may co-exist in clinical practice; and potential alternate solutions to screening tools for efficient and valid assessment of cognitive function in neurorehabilitation settings.

Mini Workshop L: Case formulation in ABI How a cognitive behaviour therapy framework can help.

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Case formulation is a key part of understanding presenting issues and planning effective interventions for people with acquired brain injury. A good formulation should provide both the psychologist and client with an explanation for the current issues faced by that client as well as targets for treatment. However, neuropsychological formulation often focuses on detailed description of cognitive impairments and consideration of possible diagnoses, rather than a more comprehensive biopsychosocial formulation of presenting issues and the factors that precipitate and maintain them. Developing more effective case formulation skills can help to bridge the gap between assessment and treatment. Good case formulations are also helpful for medical and allied health colleagues in effectively working with clients. This mini-workshop will review the cognitive behaviour therapy framework and its use as a tool for more comprehensive formulation of people with ABI that may be used not just for doing CBT, but for guiding targeted recommendations more broadly and communicating these with clients and other professionals. We will focus on formulations for adults with ABI (e.g., TBI, stroke, hypoxic injury etc.) and the workshop will incorporate case examples, small-group case discussion, and experiential exercises to demonstrate the use of this CBT-based approach to formulation in everyday clinical practice. The mini-workshop is aimed at advanced students and clinicians at any stage of their careers who wish to develop their skills in case formulation of clients with ABI that can be applied when writing reports, giving feedback, and planning and delivering interventions.

Mini Workshop M: Developing stepped psychological care for people with acquired brain injury.

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Emotional problems are common after ABI and are distressing, but also impact on functional outcome. The UK experience is that there are insufficient resources for psychologists to review every patient, nor is it felt this is necessary. On this account a stepped approach to psychological care has been developed and most specifically applied within stroke rehabilitation. The model encompasses prevention and intervention, stepped according to need. The UK stepped approach to psychological care after stroke will be described including attention to appropriate interventions at various levels and when to refer on. Participants will consider the potential for the model to be applied within their own service setting.

Individual papers Session 1: Ageing and dementia

Memory recall in the Tasmanian Healthy Brain Project (THBP): Multilevel modelling of growth curve memory performance from years 1-3 of the THBP.

Saunders, N.L. (Wicking Dementia Research & Education Centre, University of Tasmania), Summers, M.J. (School of Medicine & Wicking Dementia Research & Education Centre, University of Tasmania), Lenahan, M. (School of Medicine, University of Tasmania), Vickers, J.C. (Wicking Dementia Research & Education Centre, University of Tasmania).
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Research into age-related cognitive decline indicates that the rate of memory decline remains constant, independent of a person's level of previous education. However, some research reports that the rate of verbal memory decline varies according to level of education. The aim of the present study was to examine changes in memory recall over the first three years of the Tasmanian Healthy Brain Project (THBP). Data from 546 adults: 123 from a healthy control group, and 423 adults who attended university for a minimum of 12 months. Group differences in memory recall over the initial three years of cognitive testing in the THBP were examined using growth curve, multilevel modelling. A significant quadratic change in memory recall was found across study phases ($F_{(1565,987)} = 59.347, p. < .001$), with recall varying significantly between the experimental and control groups ($\text{Var}(\mu_{0j}) = .6524$). No significant interaction between group membership and change in recall performance over time was detected ($F_{(1, 579.74)} = .030, p. = .863$). These results indicate that individuals in both groups displayed a curvilinear change in memory recall over test phases, suggesting that additional education exerts no effect on age related memory decline.

Verbal episodic learning curves predict MCI outcomes 12 months later.

Summers, M.J. (School of Medicine & Wicking Dementia Research & Education Centre, University of Tasmania), Saunders, N.L. (Wicking Dementia Research & Education Centre, University of Tasmania), & Klekociuk, S.Z. (School of Medicine, University of Tasmania)
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Recent research indicates that Mild Cognitive Impairment (MCI) is longitudinally unstable, with a significant proportion of clinically identified cases of MCI reverting to an unimpaired status at subsequent assessment. The aim of the present study was to examine the capacity of a single time point assessment of verbal episodic learning (RAVLT) to differentiate between longitudinally stable and progressive variants of MCI from cases that display recovery 12 months later. A composite sample of 233 adults aged 60+ years were drawn from two existing (2006-2010 and 2011-2013) longitudinal clinical studies of MCI (healthy controls = 59; MCI variants = 164; AD = 10). Repeated measures ANOVA identified significant differences between the learning curves in groups defined by diagnostic outcome 12 months later: control and recovered-MCI groups displayed intact learning curves; persistent na-MCI and unstable MCI groups displayed mildly lowered learning curves; longitudinally persistent a-MCI, persistent a-MCI+, and cases progressing from MCI to AD, all displayed significant learning curve decrements; the lowest learning curves were seen in the confirmed AD referent group. The use of serial list learning episodic memory tasks to assess learning over repeated trials may enhance predictive diagnosis of outcome in suspected cases of, thereby enhancing MCI diagnostic accuracy.

Reducing false positives in MCI. The role of neuropsychological assessment.

Klekociuk, S.K. (University of Tasmania) & Summers, M.J. (University of Tasmania)
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Longitudinal studies of MCI report that a significant proportion of diagnosed cases of MCI display a recovery to normal levels of functioning over time, suggesting an unacceptably high rate of false positive diagnosis for existing MCI diagnostic criteria. A sample of 118 community dwelling adults diagnosed as MCI or healthy control according to current criteria were recruited into the present study. Each participant underwent two subsequent comprehensive assessments over 20-months. Participants were reclassified as either MCI ($n= 60$) or unimpaired ($n= 58$) according to temporal stability of cognitive performances. Discriminant function analysis of initial test performances identified a combination of baseline measures of complex sustained attention, semantic memory, working memory, episodic memory, and selective

attention resulted in the correct classification of 80.0% of longitudinally confirmed MCI cases and 87.9% of unimpaired cases. Further, using the discriminant function the rate of false positive diagnosis (5.93%) was considerably lower than those reported in previously published MCI studies. The results indicate that episodic memory dysfunction is predictive of temporally stable MCI but only in combination with subclinical deficits to other domains such as attentional processing and semantic memory. Further, comprehensive neuropsychological assessment may enhance the sensitivity and specificity of a MCI diagnosis.

Cognitive predictors of dementia in MCI 36 and 18 months before diagnosis.

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Although the neuropsychological correlates of early Alzheimer's disease (AD) are fairly well understood, the changes in deficit patterns in the time preceding diagnosis have not been extensively investigated. Cognitive data were collected at four time points separated by 18 month intervals in the Australian Imaging, Biomarkers and Lifestyle (AIBL) Study of Ageing. Retrospective analysis of cases with Mild Cognitive Impairment (MCI) who received a diagnosis of AD within the timeframe of the study employed a novel case-anchored methodology, and revealed that deficits in complex attention and recognition memory are of particular prognostic value 36 months prior to transition from MCI to AD status. In contrast, within 18 months of transition, delayed verbal recall on a list-learning task, sustained psychomotor processing speed and complex attentional deficits were most predictive of transition likelihood. A general relationship between task complexity and prognostic utility was also identified suggesting that tasks which are more complex in general, regardless of cognitive domain, have previously unrecognized predictive value.

Impact of prefrontal atrophy on episodic memory performance in Alzheimer's disease.

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Alzheimer's disease (AD) sometimes presents with prominent executive dysfunction and associated prefrontal cortex atrophy. The impact of such executive deficits on episodic memory performance in AD, however, remains unclear. This study investigated episodic memory and brain atrophy in AD patients with relatively spared executive functioning (SEF-AD; n=12) and AD patients with relatively impaired executive functioning (IEF-AD; n=24). We also compared the AD groups with a group of behavioural-variant frontotemporal dementia patients (bvFTD; n=22), who typically exhibit significant executive deficits, and age-matched healthy controls (n=38). Behavioural results showed that all patient groups were impaired on the Rey Auditory Verbal Learning Test and Rey Complex Figure Test compared to controls. Across patient groups, the IEF-AD group tended to perform lowest compared to SEF-AD and bvFTD. Voxel-based morphometry analyses revealed extensive prefrontal and medial temporal lobe atrophy in IEF-AD and bvFTD, whereas this was limited to the middle frontal gyrus and hippocampus in SEF-AD. Moreover, the additional prefrontal atrophy in IEF-AD and bvFTD was correlated with memory performance. These findings indicate that IEF-AD patients show prefrontal atrophy in regions similar to bvFTD, and that this has an additional impact on episodic memory performance.

Social perception in MCI.

Fernandez, S. (University of Waikato), Starkey, N. J. (University of Waikato), Barber, C. C. (University of Waikato)

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Background: Social perception is the ability to attend to and infer a wide range of social phenomena; this has been found to change with age and deteriorate in dementia. Mild Cognitive Impairment (MCI) (Mild Neurocognitive disorder in DSM-5) is a relatively new term and has been described as the prodromal phase of dementia (Peterson et al., 1997). Aim: To evaluate social perception in people diagnosed with MCI and compare them to an age-matched MCI-free cohort. Methods: Thus far, fifty-six participants have been assessed using range of neuropsychological tests and the Awareness of Social Inference Test Revised (TASIT-R) (McDonald et al., 2003). Preliminary Findings: Of the fifty-six initial participants, 15 participants were diagnosed with MCI. Initial analyses suggest there may be a significant difference

whereby people with MCI have more difficulty recognizing emotions. Data collection is continuing and participants are being purposively recruited in order to obtain an adequate number of participants with MCI. Assessments will be completed by August, 2014, and further analysis of the relationship between scores on the TASIT-R and MCI will be reported. Conclusions: Social perception, and particularly recognition of emotion, is an important aspect of psychosocial functioning which may be affected by cognitive decline in MCI.

Platform paper: Is baseline neuropsychological testing necessary in managing sports related concussion?

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Obtaining baseline neuropsychological data to assist management of sports-related concussion was once considered the standard of care. It has been recently suggested that post-concussion testing alone will suffice. The present study compared the sensitivity of baseline and normative paradigms in the setting of sports-related concussion. Through a prospective cohort study, baseline neuropsychological data was collected for 194 rugby league players. During competition 27 athletes sustaining concussion were retested within 2 days of injury. Twenty-six uninjured controls were assessed at similar intervals. The baseline paradigm was assessed using a reliable change index comparing pre- and post-concussion scores. The normative paradigm was assessed comparing the post-concussion score to a normative mean. Confidence intervals were set at 68% and 90% for both paradigms. The baseline paradigm was consistently more sensitive to change following concussion. A more relaxed confidence interval improved sensitivity at the expense of specificity. ICCs suggested the two paradigms were at times in reasonable agreement yet the baseline paradigm remained more sensitive. Despite being a time and resource intensive process, the baseline paradigm as a repeated-measures design will be more sensitive than the between-subjects design of the normative paradigm. Further validation of normative assessment is required in sports-related concussion.

Individual papers Session 2: Rehabilitation

Impact of premorbid alcohol and substance abuse on outcomes after TBI: a meta-analysis.

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Traumatic brain injury (TBI) is a leading cause of death and disability. Although alcohol and substance abuse is a risk factor for TBI, the specific impact of this abuse on outcomes after TBI remains unclear. A meta-analysis was therefore conducted to evaluate the impact of pre-morbid alcohol/substance abuse on medical, neurological, cognitive, psychological, and functional outcomes. A comprehensive search of the PubMed, Embase, and PsychINFO data-bases was undertaken (1960 - 2014) and all studies screened using detailed inclusion/exclusion criteria. The data from 31 studies were analysed. Cohen's *d* effect sizes (and 95% CIs) were calculated using a random-effects model, comparing the outcomes of those with and without a documented history of abuse. Fail-safe *N* statistics assessed the potential for publication bias. The findings suggest that people with a history of alcohol/substance abuse perform moderately worse across all areas after a TBI, compared to those without, with neurological and functional outcomes being most affected. While it is not possible to determine whether these differences pre-date the TBI and/or reflect damage to an alcohol/substance-compromised brain, this study quantifies the extent to which there are differences in the outcomes of those with and without a documented history of alcohol/substance abuse.

Challenges in implementing a CBT research intervention in young people with acquired brain injury: Psychosocial and pragmatic challenges

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Anxiety frequently co-occurs in young people with acquired brain injury (ABI). The current study is evaluating an adapted CBT program for managing anxiety in adolescents with ABI using a randomised controlled design (RCT). Based on the "Chilled" program for non-brain injured young people the study has randomised 36 anxious adolescents with ABI (from Royal Children's Hospital, Melbourne and The Children's Hospital at Westmead, Sydney) to a treatment or wait-list control group. The research protocol,

including an individually based 11 week program, is highly resource intensive with challenges related to not only implementing CBT but also maintaining a RCT. Successful engagement of clients and completion of the research and treatment protocol requires a high level of flexibility. This paper presents both quantitative and qualitative data elucidating these issues, including case studies. Some issues were specific to the site (e.g. severity of presentation and greater travelling time). However, common challenges were identified and modifications implemented in response. This paper makes recommendations that may facilitate successful implementation of a manualised CBT intervention for an ABI population. Although resource intensive, this treatment could result in improved psychosocial well-being for young people with ABI and their families, as well as long-term savings to the health care system.

Observed strategies on naturalistic memory tasks in amnesic mild cognitive impairment.

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Abstract: An understanding of the strategies people with amnesic mild cognitive impairment (aMCI) spontaneously use can inform targeted memory training. We observed strategy use on two naturalistic memory tasks (face name; numberplate) for 113 healthy older adults (HOA) and 106 people with aMCI. On both tasks, there were no significant differences in strategy use (aMCI: face name - 55%; numberplate - 43%; HOA: face name - 66%; numberplate - 52%). Most participants used a single observable strategy, although a combination of strategies was used by 30% on the face name task and 27% on the numberplate task; which did not differ between aMCI participants and HOA. Note taking was the most commonly used strategy on both tasks, although more frequently used on the numberplate task. Other strategies observed included semantic association, rehearsal, spaced retrieval, increased concentration, and selective attention. For all strategies, there were no significant differences in the proportion of aMCI participants and HOA using the strategy on either task. There was some evidence of a shift in strategy use according to the task stimuli, for both groups. The findings suggest that although people with aMCI may use strategies less effectively, they retain their ability to adapt strategies to different stimuli.

Self-awareness of on road driving after TBI.

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Objective: The aim of this study was to explore self-awareness of on-road driving ability in individuals with traumatic brain injury (TBI) using a new measure of self-awareness. Method: Participants included 32 individuals with moderate to extremely severe TBI (PTA duration $M = 32.07$, $SD = 30.57$ days), and 32 healthy age, gender and education matched controls. Participants completed an on-road assessment with an Occupational Therapy (OT) specialist driving assessor. TBI participants and OTs then independently completed the Brain Injury Driving Self-Awareness Measure (BIDSAM). Results: Awareness scores on the BIDSAM were significantly worse in TBI participants who failed the on-road assessment ($M = 9.55$, $SD = 4.03$) than those who passed ($M = -1.7$, $SD = 3.91$) and controls ($M = -2.91$, $SD = 4.78$), $F(2, 61) = 34.32$, $p < .01$. Poor self-awareness was significantly correlated with reduced performances on the SDMT, $r = -.38$, $p < .01$, and TMT-B, $r = .29$, $p < .05$. Conclusions: Individuals with TBI who failed an on-road assessment significantly overestimated their driving ability. Reduced self-awareness was significantly associated with reduced psychomotor speed and high-level attention. These findings have applications for determining readiness to return to driving.

Fitness to drive in dementia: Driver/carer self-report and loss of insight.

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This paper presents new data from the Adelaide Dementia Driving Clinic, and considers driver and carer rating in prediction of on-road driving outcome. Data are presented to investigate the proposition that elderly drivers with known or suspected dementia and/ or their carers are able to nominate the appropriate time to retire from driving. A measure entitled the Anosognosia Questionnaire-Dementia is introduced, this enabling the self-rating (and carer rating) of intellectual and behavioural indicators of cognitive decline in drivers with known or suspected dementia. Loss of insight (anosognosia) in such drivers is of concern given that various authorities have in the past recommended

that older drivers with dementia should be allowed to nominate their own time to retire from driving. On the basis of current findings, recommendations for future dementia driving screening, and future policy development, are proposed.

Individual papers Session 3: Paediatric & Adult Physical & Mental Health

Long-term cognitive and psychosocial outcomes of children after liver transplantation in Australia: preliminary findings.

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As a result of Australia's relatively low organ donation rates, children in Australia must wait longer for donor livers compared to children in other developed nation as they must compete with adults for the same livers. Long waiting times for a liver transplantation have negative effects on brain functioning. Indeed, the limited international studies investigating cognitive outcomes in children after liver transplants report reductions in intellectual and academic functioning, with specific deficits in the areas of perceptual reasoning, visuospatial skills, mathematical abilities, and attention.

Our study is the first to investigate the long-term cognitive and psychosocial outcomes after paediatric liver transplantation in an Australian context. We are also interested in determining whether longer waiting times are detrimental to a child's brain development and associated with poorer outcomes. We present preliminary data on 12 children (five females; mean age: 9.73 years; mean years since transplant: 6.84) who have undergone a comprehensive neuropsychological assessment. Early results suggest problems in the areas of mathematical abilities (with 50% of the sample demonstrating significant difficulties), attention (58%) and fine motor skills (33%). In contrast to previous literature, our participants demonstrate a relative strength in perceptual reasoning. Preliminary neuroimaging data will also be presented.

Neuropsychological functioning in youth depression.

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Background: Adolescence and young adulthood is the peak period for the emergence of new cases of depression. The literature on neuropsychological functioning in this population is diverse. As a result it has been difficult to draw conclusions about the association between depression and neurocognitive dysfunction in young people. Aims: The aim of this study is to conduct a systematic literature review on neuropsychological functioning in young people (12 to 25 years) with depression. Method: An electronic search of PsycINFO, Cochrane Library, Embase and Medline databases has been conducted. Included studies examine neuropsychological functioning in young people with diagnosed depression as well as subthreshold symptoms. Studies including co-morbid diagnoses of bipolar disorder or psychosis are excluded. Results: The systematic review reveals a number of key findings. Methodologically, there is variance in the quality of the studies and a wide variety of neuropsychological assessment measures employed to assess cognition. Clinically, the areas in which neuropsychological functioning in depressed youth appears to be most consistently compromised compared to controls are attention/concentration, processing speed, orthographical lexical retrieval and planning and organisation. The results will be discussed in regard to both their clinical applicability and utility in shaping choices for treatment interventions.

Wernicke-Korsakoff syndrome without alcohol: a systematic psychometric review.

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Korsakoff syndrome (KS) is conventionally defined as selective memory impairment with relative preservation of other cognitive functions. A common view is that cognitive dysfunction occurring in the context of alcohol use disorder that is non consistent with this conventional definition of KS is due to other effects, for example, ethanol neurotoxicity. These popular notions were tested in this study. The MEDLINE database was systematically searched for details of psychometric assessments of cases of Wernicke's encephalopathy or Wernicke-Korsakoff syndrome (WKS), including chronic KS variants, occurring in the absence of alcohol use disorders. Thirteen cases were retrieved. No case was assessed during the acute confusional phase of WKS (or Wernicke's encephalopathy). Assessment data were analysed within the framework of the

Cattell-Horn-Carroll (CHC) model of cognitive abilities. Results showed that deficits in multiple cognitive abilities was common in WKS without concomitant alcohol use disorder. Affected cognitive abilities varied between cases, as did severity of memory and other cognitive deficits. It was concluded that, like acute WKS, the chronic variant of WKS is highly heterogeneous. If a diagnosis of chronic WKS or KS is excluded because the selective amnesia is not observed, many cases of chronic WKS will be missed.

Neuropsychological issues in understanding idiopathic generalised epilepsies (IGE).

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Idiopathic (or genetic) generalised epilepsies (IGE) are a group of syndromes of child and adolescent onset that together account for up to 30% of all epilepsy cases. Specific syndromes include juvenile myoclonic epilepsy, childhood absence epilepsy and IGE with generalised tonic-clonic seizures. In contrast to some of the well-known focal epilepsies, these generalised epilepsies were considered to be benign with respect to cognitive and psychopathological sequelae. However, a growing body of research describes reduced cognitive function, increased rates of mental illness and poorer psychosocial outcomes. We conducted systematic reviews of the literature regarding cognitive function, psychopathological comorbidity and anti-epileptic drug cognitive side-effects in IGE. We have also undertaken a study of cognitive and psychosocial function in a representative sample of Australian patients (n=56 at June 2014; recruitment ongoing). Findings include medium to large reductions in generalised cognitive function across all IGE syndromes and 38% prevalence of elevated symptoms in two or more areas of psychopathology in our sample. In combination, these results highlight the need for routine screening of common psychopathological symptoms and increased awareness of the nature of cognitive dysfunction in IGE. Evidence-based recommendations for clinical neuropsychological input in the management of IGE will also be discussed.

Emotion recognition in premanifest Huntington's disease.

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Emotional recognition represents an important element of social cognition. It helps us to judge a person's level of interest, infer their emotional state and predict their future behaviour. Huntington's disease (HD) is a genetic condition caused by expansion of a CAG trinucleotide. It has been suggested that emotional recognition is impaired in HD. However, the extent of this impairment remains controversial. We addressed this issue in the PREDICT cohort, focusing on prodromal HD. Our specific aims were to investigate emotional recognition between groups at different levels of risk ('high', 'medium' and 'low') for manifest HD. We evaluated a sample of 810 pre-symptomatic HD individuals and 230 controls over 7 years and compared performance across a range of 6 facial emotions (anger, disgust, fear, happiness, sadness, and surprise). The High risk group manifested worse scores at baseline than controls for recognition of all emotions. The Medium risk group performed worse than controls at baseline with respect to the emotions of anger, fear, and sadness. The High risk group also manifested worse performance over time than controls concerning recognition of anger, surprise, and happiness. The findings are important in demonstrating impairment in detailed aspects of social cognition in pre-manifest HD.

Aggression in Huntington's disease.

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Background: Huntington's disease (HD) is a neurodegenerative condition characterised by motor dysfunction, cognitive impairment and psychiatric symptoms. Aggression is also common and can lead to significant difficulty in managing HD patients safely and effectively as the disease progresses. There are currently no clinical guidelines on how to best manage aggression in this population. Aims and Method: This study aims to provide a comprehensive review of the literature on aggression in HD, including clinically

utilised management strategies, via a comprehensive electronic database search. Results: The results indicate that varying rates of aggression have been reported across studies (between 17 and 44%). These rates are mediated by factors including disease duration and inpatient/outpatient status. Correlations between aggression and other factors (i.e. suicidal ideation, psychiatric symptoms, falls) are also reported in a number of studies. However, little research into the specific triggers for aggression in HD exists. Published research on the treatment of aggression primarily involves pharmacological intervention, in case study or case series designs that are not well controlled. However, several studies have utilised behaviour support modification and multisensory environments with varying degrees of effectiveness. The clinical implications of the review findings will be discussed with regard to behaviour management strategies.

Poster 1: Return to productivity in mild traumatic brain injury: The role of working memory and distress

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The study investigated the association of working memory, psychological distress, post-concussional syndrome (PCS), and pain during hospitalisation and litigation at six months, to return to productivity (RTP) following mild traumatic brain injury (mTBI). RTP was defined as return to paid/unpaid employment, study and home duties six months post-injury. Data collected a mean 3 days (SD = 2.63), and a mean 210 days (SD = 39.61) post-injury from 42 mTBI participants was analysed using logistic regression to determine whether Brown-Peterson 36-second delay (BP36) scores, age and education predicted RTP. Fifteen participants (35.7%) failed to achieve full RTP. BP36, age and education did not predict RTP. Chi-square analyses and point-biserial correlations were used to examine the relationship of acute post-traumatic stress, depression, PCS, pain, and litigation to RTP. There was no association of PCS or pain to RTP. Acute post-traumatic stress ($r = 0.48, p < 0.01$), depression ($r = 0.44, p < 0.01$) and litigation ($\chi^2(1, n=42) = 13.93, p < 0.01$) were significantly and moderately associated to RTP. Post-hoc analysis revealed depression and BP36 were moderately correlated ($r = -0.34, p = 0.04$) suggesting a relationship between depression and working memory. The results suggest psychological distress and litigation influence functional recovery following mTBI.

Poster 2: Context — A critical factor in the assessment of decision making capacity — a case based analysis

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Assessing decision making capacity is an increasingly important task in clinical practice both to ensure that an individual's rights are not improperly infringed while ensuring that impaired individuals are adequately protected. Attempts have been made to develop testing instruments to assess decision making ability with some success. However, as decision making ability is task specific, they are unlikely to replace clinical assessment where the nuances of the specific issue about which a decision needs to be made are taken into account. This point will be demonstrated by three clinical cases drawn from clinical practice.

Poster 3: Presence of pitfalls in medical practitioner assessment of decision making capacity in their patients

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In our present society all normal adults are assumed capable of making their own decisions. This 'taken for granted' assumption may be called into question in the presence of impaired cognition. The increasing age structure of our society, with the consequent increase in 'dementia', means that assessing decision making capacity is an increasingly important clinical activity. Clinical assessment is the 'gold standard' for assessing decision making capacity. Like all such 'gold standards' in complex biological systems it has inherent flaws. Attempts to develop instruments to test decision making capacity, while of some use, lack the specificity to replace clinical assessment. Assessment of decision making capacity cannot be made without considering the context of the patient. Failure to do so could lead to mistakes.

Poster 4: Prospective Memory in Older Adults: Predictors of Performance on a Habitual Task

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Objectives: Age-related difficulties in episodic prospective memory (PM) are common, but little is known about habitual PM performance, which needs to be carried out daily or over many days, such as monitoring blood sugar levels. Therefore, this study investigated age-related performance on a habitual PM task in naturalistic settings.

Methods: 191 healthy older adults (65–89 years) wore an activity monitor used for sleep measurement over two weeks. Habitual PM involved pressing a button twice daily on the activity monitor, at bed-time and rise-time. Responses within 10 minutes of bed-time or rise-time, determined by light, movement and diary data, were scored as correct. Neuropsychological measures assessed retrospective memory and executive function.

Results: As distinct to retrospective memory, there was no age-related decline in habitual PM ($p = .55$). Factors associated with better accuracy, included performance at bed-time vs. rise-time ($p = .006$), and the first vs. second week ($p < .001$). Only retrospective memory predicted small but significant variance in PM ($\beta = .24$).

Discussion: These findings suggest that factors, such as routines and motivation, are more important than cognition in older adults' ability to remember to perform daily tasks. This is important when planning interventions for maintaining independent living.

Poster 5: Cross-cultural validity of U.S. longitudinal norms in Australians: preliminary results

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U.S. longitudinal normative standards to reliably detect cognitive change are widely used in Australia. However, the cross-cultural validity of these norms in Australians has not been established. To address this, we used U.S. norms based on the simple standardised regression-based (SRB) approach (includes baseline performance in its predictions) and the multiple SRB approach (also includes corrections for baseline overall cognitive competence and demographics) developed in 296 Americans (mean age=40.40; 208 males) and a pilot sample of 38 high-functioning Australians (mean age=53.24; 33 males). Overall change scores ($p > .70$) and proportion of change (improved/declined) versus stable produced by the simple and multiple SRB change norms were similar for Americans and Australians (90% confidence interval, 2-tailed; $p > .40$). While both approaches yielded statistically similar overall change scores ($p = .864$) and proportion of change ($p = .924$) in the Australian sample, case inspection revealed that the multiple SRB approach was more sensitive at detecting change than the simple SRB approach (i.e., one additional participant was identified as having declined in the former). Our study demonstrates preliminary evidence for the cross-cultural validity of these U.S. change norms in Australia. The greater sensitivity of the multiple SRB approach could prove important in larger samples of Australians with diverse cultural backgrounds.

Poster 6: Attention and executive functioning following traumatic brain injury

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Deficits in attention and executive functioning are common following traumatic brain injury (TBI). This study aimed to investigate the performance of individuals with TBI on tasks assessing speed of thinking, working memory, divided attention and inhibition. Factors influencing attention and executive functioning such as injury severity were also investigated. Participants were 44 individuals who had sustained a moderate to severe TBI (27 males) with mean age 34.49 years, mean post-traumatic amnesia (PTA) of 31.88 days and mean time post-injury of 11.66 months. Forty-four age-, gender- and education-matched healthy controls were also recruited. Participants completed the National Adult Reading Test, Symbol Digit Modalities Test (SDMT), Digit Span (WAIS-IV), Trail Making Test (TMT) and Hayling Test. Mann-Whitney U Tests revealed patients with TBI completed fewer SDMT items and were slower to complete TMTA, Hayling Initiation and Hayling Inhibition tasks than controls. Increased duration of PTA was associated with completion of fewer SDMT items and increased TMTA completion time. This study, consistent with other studies of individuals with moderate to severe TBI, suggests the major deficit in attention and executive functioning is in the domain of speed of thinking. These findings support targeted intervention for slowed speed of thinking after TBI.

Poster 7: Using social cognition to predict functional outcomes after ABI.

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The utility of cognitive tests in predicting “real world” outcomes following acquired brain injury (ABI) is a topic of ongoing debate. Tests of social cognition, such as emotional intelligence (EI), have been proposed as complementary methods of assessment to improve the prediction of functional outcomes for these patients. The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) is an objective, ability-based measure of EI which assesses skills that are theoretically pertinent for adaptive social and community functioning after ABI. However, the utility of this measure is yet to be tested in an ABI sample. We have undertaken the first empirical study of the relationship between EI, cognitive function, and community integration in a sample of ABI outpatients from a Melbourne rehabilitation hospital (n=44 at June 2014, recruitment ongoing). Preliminary findings indicate that patients demonstrate mild to moderate reductions in overall EI scores relative to population norms. In particular, the ability to strategically manage and regulate emotions appears strongly related to positive community integration, whereas routinely used cognitive measures, such as IQ and working memory, were not related to community integration. These findings suggest that a measure of EI could represent a useful adjunct to current methods of neuropsychological assessment in the ABI population.

Poster 8: Neurocognitive outcome following treatment for paediatric leukaemia: Pilot data

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Background: Advances in treatment have meant that paediatric acute lymphoblastic leukaemia (ALL) now has a 90% cure rate. However a range of specific neurocognitive effects have been found post-treatment, with deficits in attention, working memory and processing speed most commonly reported. Attempts to describe treatment-related brain damage have been limited by the use of insensitive neurocognitive measures. This study aims to identify domain specific late-effects in paediatric ALL patients.

Method: 10 patients aged 7-16 years who were 3 months post chemotherapy-only treatment for ALL and 10 healthy controls underwent targeted neuropsychological assessment. Neurocognitive outcomes were measured using the Wechsler intelligence scales and the Cambridge Neuropsychological Automated Test Battery (CANTAB). Group differences were apparent on a range of relevant cognitive measures.

Outcomes: The neurocognitive profile of ALL survivors will be discussed in relation to the development of core processing skills with a particular emphasis on attention.

Poster 9: Subjective Cognitive Decline and Prospective Memory Performance

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Background: Older adults reporting a high-level of subjective cognitive decline (SCD) may be at increased risk of Alzheimer’s disease (AD). Suggestions of an asymptomatic phase of AD characterised by SCD and yet objective cognition within normal limits, indicates that new measures sensitive to subtle changes in cognition are required.

Objective: To evaluate prospective memory performance in a community sample of healthy older adults, including those reporting high levels of SCD.

Method: On the basis of the Memory Assessment Clinic – Questionnaire, 198 participants were assigned to a SCD group or a control group. An event-based prospective memory task, with focal or nonfocal retrieval cues allowing exploration of the underlying cognitive processes, was completed.

Results: A significant cue effect was evident, $\eta_p^2 = .78$, with prospective memory less accurate in the non-focal cue condition than in the focal cue condition. There was also a moderate and significant group effect, $\eta_p^2 = .06$, with the SCD group less accurate in prospective memory. Regression analysis identified episodic memory as an important predictor of prospective memory, but only for the SCD group.

Conclusion: The results are supportive of a possible role for prospective memory in characterizing SCD and in the early detection of AD.

Poster 10: Cognitive training in older adults: Selected predictors of training gain

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Background: Online cognitive training games are popular with older adults in the community. Training gains on these games are highly variable and appear to be dependent on a combination of factors related to training protocols and individual differences.

Objectives: This study was designed to analyse the role of three factors (training compliance, training intensity, and time of day) in the training gains of older adults undertaking a home-based online computerised training program.

Method: Eighty healthy older adults (age range: 60-88) participated in one of three domain focussed training groups (spatial working memory, set-shifting and speed).

Participants were instructed to complete 40 sessions of online training over eight weeks.

Results: Regression analysis revealed small-moderate effects of training compliance and intensity on training gains, when controlling for age, education, and gender. These results suggest that there is a relationship between the level of engagement in training and the amount people improve over the course of their training.

Discussion: Most study protocols for cognitive training ask their participants to maintain regular training at a relatively high intensity. In a naturalistic environment, compliance to this can be difficult, and appears to be an important factor in whether training gains are observed.

Poster 11: Neuropsychological test performance in native versus non-native English speakers

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Studies have suggested that even when fluent as adults, non-native English speakers perform worse than native English speakers on neuropsychological tests of language production but not on verbal memory tasks. We examined whether this pattern would be observed in an adult Australian sample across different verbal tasks. We tested 60 neurologically normal adults aged 18-60, (42 native English and 18 fluent, but non-native English speakers) on measures of language production: Boston Naming Test (BNT), Animal Fluency, Test of Premorbid Functioning (TOPF) and verbal memory: Rey Auditory Verbal Learning Test (RAVLT), WAIS-IV Logical Memory test (LM). Compared to the native English speakers, t-tests revealed that the non-native English speakers obtained significantly lower scores on the BNT, Animal fluency and TOPF. However, groups did not differ on verbal memory as measured using the RAVLT and LM. There was a marginal negative correlation ($p=.06$), between age of English language acquisition and BNT score only. These findings indicate that performance of non-native English speakers on standardly used language-production tasks should be interpreted cautiously, whereas norms for verbal memory measures are more generally applicable. These results raise the importance of noting the presence of a non-native English speaking background when interpreting specific language-production measures.

Poster 12: Anxiety following TBI: a meta-analysis comparing methodological and sample variables

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Anxiety is commonly experienced following traumatic brain injury (TBI), however estimates of the prevalence of anxiety vary widely, limiting the clinical utility of this research. Methodological and sampling differences may explain some of this variability, but it is not known to what extent. Data from 39 studies that examined the prevalence of Generalized Anxiety Disorder (GAD) or clinically significant 'cases' of anxiety (self-report) following adult TBI were analysed. In addition, the impact of a number of variables was examined, including: diagnostic criteria, measure, time post-injury and injury severity. Overall, there were fewer diagnoses of GAD, compared with 'cases' of anxiety that were identified on the basis of questionnaires. In addition, prevalence rates varied substantially when data were partitioned according to: diagnostic criteria (DSM-IV, ICD-10); the interview schedule (SCID-I, SCAN, MINI, DIS, PSE, SADS-L); self-report scale (HADS, BAI, STAI, Leeds) and method of administration (in person, phone, mail); post-injury interval (0-<6 mths, ≥6mths- <2yrs, ≥2yrs-<5yrs, >5yrs); and injury severity (mild, mild/moderate/severe, severe). This study confirms that anxiety is very common following TBI, but that prevalence rates differ depending on the method by which it is assessed and patient characteristics.

Poster 13: An evaluation of the effectiveness of a Frontotemporal Dementia carer support group

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Frontotemporal Dementia (FTD) is a degenerative brain disease that gradually destroys the ability to behave appropriately, empathise with others, learn, reason, communicate, and carry out daily activities. FTD typically has a much younger age of onset than other forms of dementia and has a devastating impact on the individual and their family. This study aimed to establish whether an FTD carer-support group could help alleviate carer burden, whilst increasing knowledge about FTD, perceived competence in the caring role, and the sense of feeling emotionally and socially supported. Twenty-three carers of individuals with FTD were invited to participate in a series of ten monthly 90-minute group sessions facilitated by a Dementia Consultant and Clinical Neuropsychologist. Participants completed structured interviews and a series of standardised questionnaires prior to commencing, and again at the completion of the intervention. While disease severity was shown to increase over the intervention period there was no change in carer burden which remained "moderate" to "severe" reflecting the very difficult role these carers have in managing the day-to-day challenges associated with this disease. As predicted, carers experienced significantly greater levels of emotional and social support following the intervention and qualitatively reported feeling less socially isolated. Carers reported feeling significantly more knowledgeable about FTD and more competent in coping with their caring role. The findings of the study support the proposition that FTD carer support groups offer a cost-effective method of providing much needed support to individuals who are in a very unique and challenging caring role.

Poster 14: Executive Function in Adults with Williams Syndrome

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The primary aim of the study is to examine the functional impact of executive dysfunction in adults with Williams syndrome (WS). In order to achieve this aim, three research questions are explored: (1) Do parent/informant ratings differ depending on whether the Child Behavior Rating Inventory of Executive Function (BRIEF-C) or the Behavior Rating Inventory of Executive Function—Adult version (BRIEF-A) is administered?; (2) Does the BRIEF-C or the BRIEF-A correlate better with standardised performance-based measures of executive function (EF)?; and (3) Do adults with WS display universally elevated levels of executive dysfunction on the BRIEF? Parent report BRIEF-C and BRIEF-A ratings were collected on 20 adults with WS (aged 18.5 to 53 years). Performance-based measures of executive function (EF) included: The Shape School Test; select subdomains from the Woodcock-Johnson III Tests of Cognitive Abilities, Australian Adaptation; and select subdomains from the Vineland Adaptive Behaviour Scales, Second Edition—Parent Survey. Overall, the results provide support for the use of the BRIEF-A as the more valid measure for evaluating EF in adults with WS. The study provides a typical EF profile for the adult WS population when using the BRIEF-A. The clinical and theoretical implications of these findings will be discussed.

Poster 15: Effectiveness of early rehearsal in alleviating accelerated longer term forgetting (ALF)

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Patients with Transient Epileptic Amnesia (TEA) show ALF over days/weeks, which may be due to disruption of memory consolidation by epileptiform discharges. We compared the effectiveness of two cognitive interventions in alleviating ALF in a 64 year old, man (CL) with TEA. His EEG revealed epileptiform discharges, but no clinical seizures. CL underwent two sessions of memory testing (8 months apart). Between the sessions, his anticonvulsant was altered and discharge frequency markedly reduced. In both assessment sessions six stories were presented, and recall was examined in three conditions: two cognitive intervention (repeated-recall and repeated-recall-with-discussion) and one control condition. Recall of story details was tested 1 and 4 weeks after the initial presentation. In the first assessment, CL recalled <10% of original story details at 4

weeks, irrespective of the early presentation/recall condition. In the second assessment, CL recalled 75% and 50% of the total story details from the intervention and control conditions, respectively. Hence, our findings suggest that early interventions (within 30 min from the first exposure) improve retention in patients with TEA, but this may only be possible once interictal discharges are controlled.

Poster 16: Effect of video gaming on object-based visual attention after controlling for demand effects

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The increasing complexity of video games has prompted research into their perceptual-cognitive effects and usefulness in a rehabilitation setting, such as in the treatment of visual neglect. Research focused on the visual attention benefits of video game play has yielded mixed results. Poor methodological practices may be responsible for this ambiguity, as demand effects and hypothesis guessing confound findings. The present study considered demand effects and video game play on a measure of divided object-based attention. One hundred male participants completed a questionnaire on video gaming either before (demand condition) or after (no-demand condition) completing a divided object-based attention task. Response time distributions were used to calculate efficiency of processing via the workload capacity coefficient. It was predicted that both demand and videogame play would be positively correlated with object-based attention workload capacity, with video game play producing effects above that of demand alone. Results and discussion in preparation.

Poster 17: Anxiety and Depression Measures in Parkinson's Disease: Which are Best?

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The high prevalence of neuropsychiatric features of Parkinson's disease (PD) has become increasingly recognised in the past 25 years. It is estimated that 40% of such patients experience depressive symptoms, while 25% report anxiety symptoms. Given the prevalence of these affective disturbances, timely and effective assessment is key. Unfortunately, symptoms of affective disturbances and PD overlap and therefore a significant proportion of patients with PD remain undiagnosed. The aim of the present study was to systematically review validity studies of depression and anxiety assessment tools used in PD. Review articles and original research examining validity of depression and anxiety rating scales were included. Results of the search revealed nine anxiety rating scales and thirteen depression rating scales that have been used with patients with PD. It was concluded that a number of depression scales have been validated and recommended for use in PD patients. However, while there have been some anxiety scales validated in PD patients, the relationship between anxiety and PD motor symptoms is complex and further research is required to develop an anxiety scale tailored for use with PD patients.

Poster 18: The neuropsychological profile of children with Achondroplasia

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Achondroplasia is a genetic bone growth disorder and the most common form of short stature, or dwarfism. Despite well-documented neurological consequences of Achondroplasia (including narrow foramen magnum, compression and upward displacement of the brainstem, gradual compression of the frontal lobes and hydrocephalus), the cognitive functioning for children experiencing this condition has received little attention in the literature. The neuropsychological profiles of 14 children with Achondroplasia (aged five to 16 years) were examined, covering cognitive domains of learning and memory, verbal and spatial abilities, information processing, attention, executive and academic functioning, with their profiles compared to the standardisation samples. Scores were subsequently investigated at an individual level in order to identify any areas of impairment. Preliminary findings suggest considerable variability within this population, however a significant proportion (>20%) of participants demonstrated deficits in areas of attention and higher ordering processing; cognitive outcomes that appear consistent with reported neuropathology for these children. This study is the first to consider attention and executive function in this population and preliminary findings suggest further research into these cognitive domains is warranted. Greater knowledge of overall cognitive function will aid both health professionals and families in providing the most effective support and intervention for these children.

Poster 19: Feuerstein Instrumental Enrichment (FIE) - An integrated program for mediating metacognitive learning across the lifespan -Some clinical applications

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This poster introduces Feuerstein's theory and philosophy of metacognitive learning, and his methodology of Cognitive Structural Modifiability with its neuroplasticity basis in mirror neurone research studies. The poster contrasts Feuerstein's Human-Mediated Learning of meta-intelligence, with the more mechanistic methods of digital Brain Training. Four Case studies will be presented to illustrate the diversity of clinical, developmental, and rehabilitative applications of FIE. The four cases will address a common goal: How to enhance the pre - post treatment potential in the cognitive modifiability of a Down Syndrome toddler, an early Dementia man, a Brain Injured Veteran, and a parent-child attachment disorder.

Delegates (registered as at 4th November 2014)

Judith	Adrian	Judith Adrian & Associates Pty Ltd
Soheil	Afshar	Macquarie University
Jacqueline	Anderson	The University Of Melbourne
Debbie	Anderson	Private Practice
Peter	Anderson	Murdoch Childrens Research Institute
Peter	Ashkar	Private Practice
Maggie	Bailey	Private Practice/Disability Services
Margaret	Bain	Department Of Neurology, St Vincent's Hospital, Sydney
Katharine	Baker	Monash University
Fiona	Bardenhagen	
Lucienne	Barhon	Macquarie University
Kristina	Barisic	Macquarie University
Peter	Bastian	Poor
Oliver	Beadle	Private Practice
Patricia	Beaumont	University of Southern Queensland
Veronica	Bell	La Trobe University
Nick	Bendrups	Pearson Clinical
Suzanne	Benson	Kids Rehab
Tischa-Leah	Biddle	Student
Hannah	Blaine	University Of Melbourne
Harriet	Bodimeade	Queensland Health
Linda	Borg	McKellar Centre
Pascalie	Bosboom	MindLink Psychology
Robert	Bourke	Monash Health
Stephen	Bowden	University Of Melbourne
Kate	Bray	University Of Melbourne
Warrick	Brewer	University Of Melbourne
Jessica	Brown	Adelaide University
Christel	Bruggeman	Brighton Rehabilitation Unit

Shayden	Bryce	Monash University
Alan	Burns	OPMHS, SA Health
Kate	Cameron	SA Health/Monash University
Jamie	Campbell	Braeside Hospital
Mary	Castellani	La Trobe University
Benjamin	Castine	The University Of Melbourne
Marina	Cavuoto	La Trobe University
Yu-Lung	Chan	ACT Health
Kathleen	Charles-Walsh	University Of Melbourne
Cate	Cheetham	Hampstead Rehabilitation Centre
Honor	Coleman	The University Of Melbourne
Emily	Connaughton	Liverpool Hospital
Madeleine	Connellan	St. Vincent's Hospital Melbourne/ The Royal Children's Hospital Melbourne
Mia	Cotan Utomo	ACT Mental Health, Justice Health, Alcohol & Drug Services
Simon	Crowe	La Trobe University
Tram	Dang	Griffith University
Adrian	Darakai	Deakin University
Jacqueline	Davis	University Of Melbourne
Caitlin	Dawes	Macquarie University
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Nadene	Dermody	Macquarie University
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Bernice	Dodds	Royal Children's Hospital
Christina	Donelly	University Of Melbourne
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Melanie	Emonson	MAPrc
Sandhya	Fernandez	University Of Waikato
Dinusha	Fernando	N/A
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Maureen	Field	Private Practice

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Caroline	Frees	Austin Health
Kate	Frencham	Judith Adrian and Associates
Yi Leng	Fung	University Of Melbourne
Ana-Marija	Gal	Macquarie University
Nicola	Gates	Brain And Mind Psychology
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Joanne	Goodall	Orygen Youth Health Research Centre
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Suzanna	Hackett	Macquarie University
Suzanna	Hackett	Macquarie University
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Aimee	Jeffreys	
Carla	Johnston	Brain Injury Rehabilitation Service
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Tammy	Lane	SESLHD
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Kate	Lennon	University Of Melbourne
Felicity	Leslie	Canberra Hospital And Health Services
Wayne	Levick	University Of Newcastle
Meghan	Lew	Nil
James	Lewis	La Trobe University
Ada	Lo	Queensland Health
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Rumbidzai	Mutandwa	Monash University
Kelly	Ng	University Of Melbourne
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Stephanie	Wong	Macquarie University
Dana	Wong	Monash University
Samantha	Wong	Prince Of Wales Hospital
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