Program Grid

as at 27 November 2014

NOTE - This is a preliminary program only and subject to change

WEDNESDAY 3 DECEMBER 2014	
0730-1900	**Registration and Information Desk Opens**
0830-0915	**Official Conference Opening**
Room	**William Magarey East**
Chair	Prof Pat McGorry - President SMHR
	WELCOME
0830-0835	**Introduction** **Prof. Pat McGorry, President SMHR & Prof Bernhard Baune - Convenor SMHR 2014**
0835-0850	**Official Opening Address** **Mrs Leesa Vlahos** Representative of The Hon. Minister Jack Snelling Minister for Health; Mental Health & Substance Abuse; Arts; Defence Industries and Health Industries
0850-0915	*History of ASPR and transition to SMHR* - **Prof Scott Henderson & Prof. Graham Burrows & Prof. Pat McGorry**
0915-1055	**Plenary Session 1**
Room	**William Magarey East**
Chair	Bernhard Baune
0915-0955	**Keynote Presentation 1** *From Neuroproteomics to Biomarkers for Schizophrenia* - **Prof David Cotter (RCSI Psychiatry, Royal College of Surgeons in Ireland)**
0955-1015	**Keynote Presentation 2** *Revisiting "high risk" for psychosis: environmental and genetic risk factors for psychotic illness* - **Prof Vera Morgan (University of WA)**
1015-1035	**Keynote Presentation 3** *Mental-physical comorbidity: key findings from the World Mental Health Surveys* - **A/Prof Kate Scott (University of Otago)**
1035-1055	**Keynote Presentation 4** *Gamma synchrony – a plausible pathophysiology in psychosis* - **A/Prof Anthony Harris (University of Sydney)**
1055-1115	**Morning Tea & Poster Viewing** William Magarey North

1115-1245	Concurrent Sessions					
	Free Communication 1A ***Neuroimaging & Cognition***	**Free Communication 1B** ***Neuropsychology of mental disorder***	**Free Communication 1C** ***Psychotic disorders I***	**Free Communication 1D** ***Psychotic disorders II***	**Symposium 1E** ***Psychoneuroimmunology: a wider perspective on mental health***	**Free Communication 1F** ***Service delivery and health outcomes***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Cherrie Galletly	Malcolm Hopwood	Oliver Schubert	Scott Clark	Ute Vollmer-Conna	Malcolm Battersby
1115-1130	*Childhood physical abuse and neglect predict pituitary gland volume in first episode psychosis patients* **Christina Phassouliotis**	*Cross-modal integration of emotion in bipolar disorder* **Tamsyn Van Rheenen**	*Genome-wide association study for schizophrenia in Tamil Nadu Indians shows polygenic overlap with Europeans* **Bryan Mowry**	*Emotion recognition in unaffected first-degree relatives of individuals with first-episode schizophrenia: A potential endophenotype?* **Kelly Allott**	*Glial cells and psychiatric disorders* **Ian Paul Everall**	*It's not just about your head but why is it so hard to connect your body?* **Lisa Wilton**
1130-1145	*Diet quality is associated with hippocampal volume in humans* **Felice Jacka**	*Social cognition in neurocognitive deficit subtypes of schizophrenia and bipolar disorder* **Jesseca Rowland**	*Proteome and pathway effects of chronic haloperidol treatment in mouse hippocampus* **K. Oliver Schubert**	*Estimating the joint effect of familial risk for diabetes and antipsychotic drug treatment on risk for diabetes in a national cohort of adults with psychosis* **Debra Foley**	*Early-life influences on schizophrenia-related measures in a rat model of maternal immune challenge* **Deborah Hodgson**	*Recovery patterns during a 6-week admission to a non-acute Intermediate Stay Mental Health Unit (ISMHU)* **Terry Lewin**
1145-1200	*Behavioural and fMRI evidence of semantic categorisation deficits in schizophrenia* **Susan Rossell**	*Is the clinical profile of psychosis following traumatic brain injury (PFTBI) diagnostically distinct from schizophrenia/schizoaffective disorder?* **Malcolm Hopwood**	*Outcomes of non-transitioned cases in a sample at ultra-high risk for psychosis* **Ashleigh Lin**	*Subnormal sensory attenuation in schizotypy: Electrophysiological evidence for a 'continuum of psychosis'* **Lena Oestreich**	*Early life stress and risk to adult psychiatric illnesses: role of neuro-immune interactions in shaping adult brain and behaviour* **Magdalene C Jawahar**	*Long acting intramuscular injections- the development and execution of a refresher training program for SA Mental Health Services* **Lisa Wilton & Bernie Stefan-Rasmus**
1200-1215	*Neural suppression of self-produced auditory but not visual sensations: relevance to psychotic symptoms* **Nathan Mifsud**	*Social cognition in depressed subjects: the role of symptom severity* **Tracy Air**	*Contrasting the expression of psychotic disorders in ethnically different populations: Identifying deficit schizophrenia in transethnic samples* **Duncan McLean**	*The different stages of psychosis among adolescent detainees in New South Wales (NSW), Australia* **Natalia Yee & Kimberlie Dean**	*Determinants of post-infective fatigue syndrome: immunological and autonomic findings* **Ute Vollmer-Conna**	*Which QALY measures should we use? The comparison of health related quality of life measures, subjective wellbeing scales and severity scales in people with depression* **Cathrine Mihalopoulos**
1215-1230	*Role of N-acetyl aspartate and glutamate in memory impairment, symptom severity and age of onset in older people with remitted or mild depression* **Hirosha Keshani Jayaweera**			*Schizotypy and cognitive functioning in everyday life: an experience sampling study* **Nicole Carrigan**	*Cognitive ageing: A role for immune activation?* **Bernhard Baune**	*In the eyes of the provider: factors associated with developmental surveillance service provision* **My Trinh Ha**
1230-1245	*Striatal shape differences are associated with plasma glucose levels: The 2sweet project* **Nicolas Cherbuin**				*Genetic findings in psychiatry: immune-related findings* **Julio Licinio**	*Cost - effectiveness of bipolar disorder treatments to assist priority setting in Australia* **Mary Lou Chatterton**
1245-1330	**Lunch & Poster Viewing** William Magarey North					

1330-1430	**Plenary Session 2**					
Room	**William Magarey East**					
Chair	Julio Licinio					
1330-1350	**Keynote Presentation 5** *Depression in old age – the first step to dementia?* - **Dr Simone Reppermund (University of NSW)**					
1350-1410	**Keynote Presentation 6** *Navigating the route from bench to bedside in eating disorders* - **Prof Tracey Wade (Flinders University)**					
1410-1430	**Keynote Presentation 7** *The "fear of fear" and its brain basis* - **A/Prof Ben Harrison (University of Melbourne)**					
1430-1500	**Afternoon Tea & Poster Viewing** William Magarey North					
	Concurrent Sessions					
1500-1600	**Symposium 2A** ***Inflammatory and immune markers in psychopathology and the course of psychiatric illness***	**Free Communication 2B** ***Modelling of course of disease and treatment response***	**Symposium 2C** ***With or without you: Should early intervention programmes for psychosis be delivered within or outside general adult mental health services?***	**Symposium 2D** ***Personality disorders: Prevalence and pathology***	**Free Communication 2E** ***Substance Abuse Disorders***	**Symposium 2F** ***New directions in eating disorder risk factor research***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Bernhard Baune & Vanessa Cropley	Scott Clark	Oliver Schubert	Carol Hulbert & Andrew Chanen	Cherrie Galletly	Kate Fairweather-Schmidt
1500-1515	*Animal models of immune markers and their association with cognition, social behaviour and anxiety* **Bernhard Baune**	*The naturalistic trajectory of quality of life in bipolar disorder* **Emma Morton**	*Specialist, stand alone early psychosis services – The EPPIC model* **Eóin Killackey**	*The prevalence of DSM-5 personality disorders in Australian women* **Shae Quirk**	*International trends over time in the prevalence and harms of alcohol and cannabis use: what is the evidence for the closing gender gap?* **Cath Chapman**	*Predicting outcomes in paediatric and adult inpatient eating disorder programs* **Eva Vall**
1515-1530	*Peripheral inflammation characterizes a subgroup of people with schizophrenia displaying poor verbal fluency and reduced Broca's area volume* **Vibeke Catts**	*Mortality 15-years after specialist early intervention treatment for the first episode of psychosis* **Susan Cotton**	*EPP - An integrated early intervention programme* **Melissa Petrakis**	*Interpersonal functioning and empathy in borderline personality disorder: The role of social perspective coordination* **Kate Caldwell**	*Long-term mortality, remission, criminality and psychiatric comorbidity associated with heroin dependence: 11 year findings from the Australian Treatment Outcome Study (ATOS)* **Joanne Ross**	*Mindfulness in schools: A transdiagnostic prevention programme* **Catherine Johnson**
1530-1545	*Investigating neuroinflammation in schizophrenia* **Vanessa Cropley**	*Long-term symptoms and functional trajectories of patients with major depressive disorder post hospital discharge* **Scott Clark**	*EPIS North: a consultation-based early psychosis intervention programme supporting a general adult community mental health service* **K. Oliver Schubert**	*Substance misuse in youth with first presentation borderline personality disorder* **Franco Scalzo**	*Attention Deficit Hyperactivity Disorder (ADHD) among Australian substance use disorder treatment seekers* **Sharlene Kaye**	*Examination of the difficulties in emotion regulation scale and its relation to disordered eating in a young female sample* **Jane Cooper**
1545-1600	*Inflammatory cytokines in young people at ultra-high risk for psychosis* **G. Paul Amminger**	*Worker and patient moral framings of community treatment orders* **Sharon Lawn**	*Early intervention for psychosis in Ireland – a research-oriented integrated model with the adult mental health service* **Brian O'Donoghue**	*Symptomatic improvement and functional outcomes of adolescents with borderline personality disorder* **Carol Hulbert**	*Recruiting for mental health and substance use research via Facebook* **Louise Thornton**	*Suicidality and eating disorders: a genetic nexus?* **Kate Fairweather-Schmidt**
1600-1610	Change Over	Change Over	Change Over	Change Over	Change Over	Change Over

1610-1710	**Symposium 3A** ***Cognitive dysfunction in depression: clinical and functional relevance, neural basis and treatment implications***	**Symposium 3B** ***Bridging the evidence-policy gap: issues and opportunities for evidence-based mental health***	**Free Communication 3C** ***Mental Health Neuroscience I***	**Symposium 3D** ***Results from a large RCT of Individual Placement and Support in first-episode psychosis***	**Symposium 3E** ***Behavioural assessments of psychiatric symptoms in animal models: the mechanisms involved***	**Free Communication 3F** ***Recovery and Functional Recovery***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Bernhard Baune	Carla Meurk	Ma-Li Wong	Cherrie Galletly	Emily J Jaehne	Chris Gale
1610-1625	*Clinical importance of cognitive dysfunction in depression* **Malcolm Hopwood**	*How can we reduce excess mortality due to chronic disease in people with severe mental illness? Implications for policy and practice* **Amanda J. Baxter**	*Cross-disorder cognitive subtypes among schizophrenia and bipolar disorder: common brain dysfunction?* **Melissa Green**	*Baseline to 18 months: Main results from a randomised controlled trial of Individual Placement and Support for young people with first-episode psychosis* **Eóin Killackey**	*Reverse translation of cognitive tasks for animal models of neuropsychiatric disorders* **Thomas Burne**	*Presenting the SIMI-LE: A measure of Social Inclusion for use with people with Mental Illness (Long-Edition)* **Kate Filia**
1625-1640	*Assessment and neuropsychological interventions for cognitive dysfunction in depression* **Sharon L Naismith**	*Defining minimally adequate treatment for schizophrenia: a review of evidence based treatment guidelines and systematic reviews* **Sandra Diminic**	*Using C-reactive protein genetic profile scores to predict risk of depression* **Natalie Mills**	*The relationship between vocational functioning and quality of life in people with first-episode psychosis* **Susan Cotton**	*Neurobiological mechanisms mediating cognitive deficits in animal models of affective-like disorders* **Thibault Renoir**	*A multi-site randomised controlled trial of evidence-based supported employment for adults with severe and persistent mental illness* **Shannon Dias**
1640-1655	*Imaging and neural basis of cognitive dysfunction in depression and neural basis of antidepressant treatment response* **Jim Lagopoulos**	*Developing an operational service platform concept to promote evidence-based planning and funding of the mental health service system* **Yong Yi Lee**	*Phenotypic and immunogenetic explorations of the acute sickness response to common infections: Sick and tired or sad?* **Ute Vollmer-Conna**	*The relationship between neurocognition, social cognition and vocational engagement in first-episode psychosis* **Kelly Allott**	*'Two hit' animal models of developmental stress: sex-specificity and interaction of oestrogen and brain-derived neurotrophic factor in behavioural and molecular effects* **Maarten Van den Buuse**	*Enabling midlife women's self-discovery to strengthen self-care in early abstinent recovery* **Janice Withnall**
1655-1710	*Pharmacological treatment opportunities for cognitive dysfunction in depression* **Bernhard Baune**	*Bridging the evidence-policy gap through engagement with researchers, policy-makers and the public* **Carla Meurk**		*Learning and earning get you more than a job: Impact of employment and education on mental health and other functional variables in first-episode psychosis* **Eóin Killackey**	*Assessing cognition-like, emotion-like and sociability behaviours in immune-transgenic mice* **Emily J Jaehne**	
1715-1815	**Poster Presentation & Judging**					
1715-1830	**Early Career Workshop - William Margery East**					
1830-2030	**Welcome Reception** **Lindsay Head Terrace** - Live Music with ***Alex and the Savages***					

THURSDAY 4 DECEMBER 2014						
0730-1730	**Registration and Information Desk Opens**					
0815-1015	**Plenary Session 3**					
Room	**William Magarey East**					
Chair	Prof Pat McGorry					
0815-0845	**BUPA Oration - Prof George Patton**					
0845-0915	**SMHR Founders Medal - Prof Ian Hickie**					
0915-0955	**Keynote Presentation 8** *Connecting research and policy in early psychosis treatment* - **Prof Robert K. Heinssen (National Institute of Mental Health, Maryland USA)**					
0955-1015	**Keynote Presentation 9** *Neuroendocrinology – the link between obesity and depression* - **Prof Julio Licinio (SAHMRI, Adelaide, SA)**					
1015-1035	**Morning Tea & Poster Viewing** William Magarey North					
	Concurrent Sessions					
1035-1150	**Free Communication 4A** ***Epidemiology and public health I***	**Free Communication 4B** ***Mood and Anxiety Disorders and Trauma***	**Free Communication 4C** ***Psychological interventions***	**Free Communication 4D** ***Treatment Innovations***	**Symposium 4E** ***Lifestyle approaches to mental health: The role of diet and nutrition***	**Free Communication 4F** ***Free Communications - Clinical***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Frances Kay-Lambkin	Ute Vollmer-Conna	Sue Cotton	Tom Burne	Natalie Parletta & Felice Jacka	Chris Gale
1035-1050	*Comorbid attention deficit hyperactivity disorder and substance use disorder severity and chronicity in treatment-seeking adults* **Jesse Young**	*Nocebo effects in the treatment of major depression: results from an individual study participant level meta-analysis of the placebo arm of duloxetine clinical trials* **Seetal Dodd**	*The ORBIT project: Pilot evidence for feasibility and efficacy of a novel international online mindfulness-based intervention for late stage bipolar disorder* **Greg Murray**	*Antidepressants and bone mineral density: A randomised controlled trial* **Michael Berk**	*Diet quality and mental health across the lifespan: updates and new directions* **Felice Jacka**	*Axis I and Axis II disorders in young people at ultra-high risk of developing a psychotic disorder: A long-term follow up study* **Anneliese Elizabeth Spiteri-Staines**
1050-1105	*Workplace bullying, psychosocial job quality and mental health: results from the PATH through Life project* **Peter Butterworth**	*Can we boost the effects of internet-based cognitive behavioural therapy for depression with positive imagery cognitive bias modification? A randomized controlled trial* **Kathleen O'Moore**	*Cognitive Adaptation Training for first-episode psychosis: Feasibility, acceptability and potential benefits* **Kelly Allott**	*NewAccess - Introducing UK IAPT services to Australia: Challenges & achievements* **Conrad Newman & Bronwyn Hall**	*Gut microbiota and autism spectrum disorder* **Michael Conlon**	*The longitudinal and intergenerational effects of childhood disaster exposure: how parental wellbeing can shape children' psychological health* **Miranda Van Hooff**
1105-1120	*The experiences of Australian men and women with psychosis: The second Australian national survey of psychosis* **Mary-Claire Hanlon**	*What interrupts a suicide attempt in men? The men's experiences of depression and suicide project* **Andrea Fogarty**	*Behavioural activation treatment for co-occurring depression and substance use disorder: The activate study protocol* **Xanthe Larkin**	*Randomised controlled trial of integrated CBT and motivational interviewing for comorbid social anxiety and alcohol use disorders* **Lexine Stapinski**	*Diet and children's behaviour problems* **Mickaela Schelleman**	*Supporting weight loss among people with mental disorders using meal replacement plans: A feasibility study* **Louise Thornton**
1120-1135	*The centrality of latent variables when examining the correlates of mental and substance use disorders* **Matthew Sunderland**		*Cost utility analysis of a psychological intervention in distressed cancer patients and carers: Beating the blues* **Mary Lou Chatterton**		*The Fish Oil Youth Depression Study: Methodology and rationale of a randomized, placebo-controlled trial* **G. Paul Amminger**	

1135-1150	*The prevalence and correlates of Substance Use Disorders (SUDs) comorbid with Mood Disorders and Anxiety Disorders: A national perspective* **Katrina Prior**		*Research proposal: Is communication skills training for healthcare workers a suitable strategy to reduce violence perpetrated by patients?* **Maria Baby**	*Adaptions of CBT for increased effectiveness with Aboriginal problem gamblers* **Sue Bertossa**	*Changing dietary behaviours in people with serious mental illness: The Helfimed Pilot Study* **Dorota Zarnowiecki**	
1150-1200	Change Over	Change Over	Change Over	Change Over	Change Over	Change Over
1200-1315	**Free Communication 5A** ***Mental Health Neuroscience II***	**Free Communication 5B** ***Epidemiology and Public Health II***	**Free Communication 5C** ***Youth Mental Health***	**Free Communication 5D** ***Epidemiology and Public Health III***	**Free Communication 5E** ***Child Mental Health***	**Free Communication 5F** ***Free Communications - Public Health***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Emily Jaehne	Tracy Air	Sue Cotton	Vera Morgan	Michael Sawyer	Eóin Killackey
1200-1215	*Establishing electrophysiological biomarkers for major depressive disorder* **David Camfield**	*Health behaviours in people with severe mental illness across four countries - comparison with normative sample* **Natalie Parletta**	*Self-harm, psychotic symptoms and substance use in young offenders* **Rohan Borschmann**	*The Transition and Wellbeing Research Program: Investigating the mental, physical, social and biological health of serving and ex-serving Australian Defence Force (ADF) personnel* **Miranda Van Hooff & Amelia Searle**	*Symptom screening scales for detecting major depressive disorder in children and adolescents: A systematic review and meta-analysis of reliability, validity and diagnostic utility* **Emily Stockings**	*The science of social media* **Helen Christensen**
1215-1230	*Exercise induced effects on anxiety, cognition, and depression in early adulthood and middle age* **Julie A Morgan**	*Does sponsorship still matter - a sub-analysis from a systematic review* **Christopher Gale**	*A needs assessment to improve mental health among vulnerable youth in out-of-home care* **Kristen Moeller-Saxone**	*The information needs of Australian health professionals providing mental health or substance use treatments* **Erica Crome**	*The clinical and diagnostic relevance of the information that children report during semi-structured clinical interviews* **Emily Macleod**	*A virtual mental health clinic for university students: a qualitative study of end user service needs and priorities* **Louise Farrer**
1230-1245	*Environmental enrichment and physical exercise: do they affect brain functions differently?* **Gaurav Singhal**	*Translation of e-mental health programs: Development of the mental health Call for Action for the National Health and Medical Research Council* **Phil Batterham**	*Delayed sleep onset in depressed young people* **Bridianne O'Dea**	*Neighbourhood characteristics and the incidence of first episode psychosis (FEP) and duration of untreated psychosis (DUP)* **Brian ODonoghue**	*Emotional and behavioural problems and academic performance in 8-9 year old children* **Lisa Mundy**	*The effectiveness of interventions designed to reduce stigma: A meta-analysis* **Kathleen Griffiths**
1245-1300	*A model of continuous life stress in mice: Assessment of the role of neuro- endocrine-immune mechanisms in adult behaviours* **Jason Izzo**	*Mental health in fathers with very young children: what role does job quality play?* **Liana Leach**	*Design of e-mental health technologies - impact of participatory methods* **Simone Orlowski**	*Predicting emotional vulnerability at age 5 using population-level perinatal information: A data linkage study* **Amelia Searle**	*Are sipping and drinking different? Parents, peers, and behaviour* **Monika Wadolowski**	*Participatory patterns of members in an Internet support group for depression and other mental health disorders* **Bradley Carron-Arthur**
1300-1315	The effects of 'lifestyle choices' on a mouse model of schizophrenia – a preclinical perspective **Tim Karl**	*The longitudinal impact of job strain on mental health and wellbeing* **Richard Burns**		*Major depressive disorder, use of antidepressants and bone mineral density (BMD)* **Michael Berk**		
1315-1400	**Lunch & Poster Viewing** William Magarey North					

1400-1500	**Plenary Session 4**					
Room	**William Magarey East**					
Chair	Ma-Li Wong					
1400-1420	**Keynote Presentation 10** *Food as medicine: the role of diet and nutrition in serious mental illness* - **Dr Natalie Parletta (University of SA)**					
1420-1440	**Keynote Presentation 11** *Premorbid correlates of risk for psychosis in childhood and adolescence: New targets for preventive interventions?* - **Dr Kristen Laurens (University of NSW)**					
1440-1500	**Keynote Presentation 12** *Progress in psychiatric genetics at last – how do we use what we have learned?* - **Prof Naomi Wray (University of QLD)**					
1500-1520	**Afternoon Tea & Poster Viewing** William Magarey North					
	Concurrent Sessions					
1520-1650	**Free Communication 6A** ***Women's and Child Mental Health***	**Symposium 6B** ***Lifestyle approaches to mental health: The role of physical activity***	**Symposium 6C** ***Hearing voices and other hallucinations - A smorgasbord of basic and applied research findings***	**Symposium 6D** ***Work and Mental Health: is work part of the problem, part of the cure, or both?***	**Symposium 6E** ***Fostering translational psychiatry careers in the 21st century***	**Symposium 6F** ***Advancing psychiatric research via interagency linkage of population records: National and international examples***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Amelia Searle	Natalie Parletta & Gaynor Parfitt	Susan L Rossell	Samuel Harvey	Bernhard Baune	Kristin Laurens
1520-1535	*Why do parents supply alcohol? Parenting practices, peers, and behaviour* **Monika Wadolowski**	*Environmental enrichment, exercise and experience-dependent plasticity in mouse models of psychiatric disorders* **Anthony J Hannan**	*Auditory verbal hallucinations and the integrity of the arcuate fasciculus: A diffusion tensor imaging study* **Simon McCarthy-Jones**	*Can work make us ill? Work and non-work risk factors for common mental disorder: Prospective findings from a British birth cohort* **Samuel Harvey**	*Translational psychiatry careers: What is the definition, why are they important, who are the stakeholders?* **Bernhard Baune**	*Linking study samples to population registers: augmenting findings from a Danish RCT of early intervention in psychosis* **Kimberlie Dean**
1535-1550	*Preventing depression in children and adolescents: What works?* **Emily Stockings**	*Chronic physical exercise induced adaptations in the brainstem and hypothalamus: A brief review of exercise effects on stress responses, the circadian clock, and energy balance metabolism* **Julie A Morgan**	*Using magnetoencephalography (MEG) to evaluate neurocognitive models of auditory verbal hallucinations* **Susan L Rossell**	*The effectiveness of individual placement and support for people with severe mental illness: a systematic review and meta-analysis* **Matthew Modini**	*International perspectives on translational medicine and translational psychiatry* **Julio Licinio**	*Risk of offending in the offspring of mothers with severe mental illness* **Giulietta Valuri**
1550-1605	*Preschooler sleep problems: Associations with maternal sleep-related cognitions, bedtime interactions and child anxiety* **Kerry-Ann Grant**	*Are the beneficial effects of exercise on anxiety symptoms and disorders mediated by inflammation and oxidative stress?* **Steven Moylan**	*Predictors of experimentally detected non-clinical hallucinations* **Emma Barkus**	*Cumulative stress exposure in Australian emergency services personnel and the risk of mental disorder* **Miranda Van Hooff**	*Developing clinical-academic skills and knowledge for medical students and residents* **Malcolm Forbes**	*Maternal psychosis, obstetric complications, and early neurodevelopmental outcomes* **Patsy Di Prinzio**

1605-1620	*Clinical profiles of women presenting to a Perinatal Mental Health Service (PMHS)* **Jeffrey Cubis**	*Does physical activity benefit cognitive function in older adults?* **Nicola Gates**	*Psychological treatment trials for hallucinations: What are we not learning?* **Neil Thomas**	*Not in Education, Employment or Training (NEET): Characteristics of NEET status among help-seeking young adults* **Bridianne O'Dea**	*A trainee perspective on developing clinical-academic pathways in psychiatry* **Steven Moylan**	*Hospital admission for infections during early childhood and developmental vulnerabilities at age 5 years: Evidence from the New South Wales Child Development Study* **Vaughan J Carr**
1620-1635	*The effect of postpartum depression on domains of everyday functioning of the mother, father and infant: a systematic review* **Edward Miller**	*Exercise and mental health: The relevance of intensity* **Gaynor Parfitt**	*The MODERN approach to hearing voices: qualitative and quantitative analyses of a hearing voices therapy group* **Vanessa Beavan**	*Tell them they're dreaming: Why a new approach is needed to work and education for young people with mental illness* **Eóin Killackey**	*Exploring the role of senior academics, executives and thought-leaders in supporting clinical-academic pathways in psychiatry* **Pat McGorry**	*Impacts of stimulant comorbidity in schizophrenia: A study using linked NSW health data* **Grant Sara**
1635-1650						*Do CTOs keep people out of hospital?* **Anthony Harris**
1700-1750	**SMHR Annual General Meeting**					
1900-2300	**Conference Dinner - Dinner Presentation: Prof. Bob Goldney "*Can we learn from history in bridging the gap?* "** **Live Music with *Orkestra de la Music Adelaide***					

FRIDAY 5 DECEMBER 2014						
0800-1700	**Registration and Information Desk Opens**					
0815-1010	**Plenary Session 5**					
Room	**William Magarey East**					
Chair	Malcolm Hopwood					
0815-0835	**Keynote Presentation 13** *Gene-environment interactions and experience-dependent plasticity in animal models of mental illness* **- A/Prof Anthony Hannan (University of Melbourne)**					
0835-0855	**Keynote Presentation 14** *Profiling experiences after Cannabis* - **Dr Emma Barkus (Wollongong University)**					
0855-0915	**Keynote Presentation 15** *Opportunities for improving the quality use of medicines in people with dementia* - **A/Prof Simon Bell (Monash University)**					
0915-0955	**Keynote Presentation 16** *Understanding disease models and treatment opportunities for cognitive dysfunction and depression from using the framework of research domain criteria* - **Prof Roger McIntyre (University of Toronto, Canada)**					
0955-1010	**Keynote Presentation 17** Vitamin D signalling and brain function in adults - **A/Prof Thomas Burne (Universty of QLD)**					
1010-1030	**Morning Tea & Poster Viewing** William Magarey North					
1030-1200	**Concurrent Sessions**					
	Free Communication 7A ***Mood and Anxiety Disorders***	**Free Communication 7B** ***Mental Health Neuroscience III***	**Symposium 7C** ***Clozapine monitoring: Bridging the gaps***	**Symposium 7D** ***Neuroprotection and neuroregeneration mechanisms in mental health disorders***	**Symposium 7E** ***Epigenetic changes and psychiatric illnesses: role of epigenome in shaping adult brain and behaviour***	**Symposium 7F** ***What do we know about comorbidity between substance use and mental health disorders? Implications for prevention and future directions***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Ute Vollmer-Conna	David Stacey	Scott Clark	Catherine Toben & Maarten Immink	Magdalene C Jawahar	Frances Kay-Lambkin
1030-1045	*Diet and the depressed diabetic: New insights from post-hoc analyses of the US National Health and Nutrition Examination Study* **Joanna Dipnall**	*The selective estrogen receptor modulators, raloxifene and tamoxifen, prevent dopaminergic-induced disruptions of prepulse inhibition* **Andrea Gogos**	*Clozapine and constipation* **Shuichi Suetani**	*What are the biological pathways linking diet and mental health?* **Felice Jacka**	*Epigenetics and depressive disorders: current progress and future directions* **Joanne Ryan**	*Temporal relationships between internalising (mood and anxiety) disorders and the initiation of alcohol use: Findings from the 2007 National Survey of Mental Health and Wellbeing* **Louise Birell**
1045-1100	*Avoidant personality disorder: Time for a re-think?* **Lisa Lampe**	*The P2X7-receptor antagonist A-804598 decreases anxiety-like behaviour post long term unpredictable chronic mild stress* **Franky So**	*Nurse –led clinics for clozapine monitoring, a South Australian perspective* **Lisa Wilton**	*Neuroimmune effects of short term administration of an inflammasome antagonist in a mouse model of long term unpredictable chronic mild stress* **Catherine Toben**	*DNA methylation: an epigenetic watermark of former cocaine exposure* **Danay Baker-Andresen**	*Drinking to cope: A latent class analysis of alcohol use motives in a large cohort of adolescents* **Lexine A Stapinski**

1100-1115	*Testing the waters or diving straight in? A preliminary analysis of discussion board engagement in the moodswings online intervention for bipolar disorder (www.moodswings.net.au)* **Emma Gliddon**	*PANACEA: The post Anaesthesia N-Acetyl-Cysteine evaluation trial* **Seetal Dodd**	*Joining the clozapine dots across a million square kilometers in country South Australia* **Grace Macdonald**	*The effects of lithium and quetiapine on neuropsychological functioning in the early stages of mania* **Rothanthi Daglas**	*The impact of childhood maltreatment on methylation in the serotonin transporter gene in a clinical case-control depression sample* **Sarah Cohen-Woods**	*An integrated approach to preventing substance use in adolescents: 12-month outcomes of the CAP (Climate and Preventure) intervention* **Tim Slade**
1115-1130	*The structure of negative mood states: Twin-study evidence for a causal influence of stress-tension on depression and anxiety* **Christopher Davey**	*Alterations in kynurenine pathway metabolites in the blood of people with schizophrenia* **Katerina Zavitsanou**	*Clozapine patients can successfully be transitioned into GP Shared-Care or private psychiatrist care* **Stuart Lee**	*Yoga for emotional wellbeing following brain insult: Preliminary research in a stroke population* **Maarten A. Immink**	*Pharmacoepigenetics: prediction of treatment response to antidepressants through DNA methylation analyses in the 5HTT and MAO genes* **Bernhard Baune**	*Modelling psychopathology structure: a developmental perspective* **Natacha Carragher**
1130-1145	*Distinguishing between unipolar depression and bipolar depression: A neuroimaging perspective* **Ronny Redlich**	*Effects of centrally administered etanercept on behaviour, histology and Tnfa expression in mice following a peripheral immune challenge* **Marie Lou Camara**	*General Practice based public-private clozapine monitoring* **Scott Clark**			*How can parents help curb alcohol use in adolescents?: The role of alcohol-specific rules on adolescent drinking trajectories in an Australian sample* **Zoe Tonks**
1145-1200	*A direct test of the diathesis-stress hypothesis using polygenic risk scores* **Nick Martin**	*Evaluation of the effects of prescribed BD drugs on mitochondrial function in neuron-like cells* **Chiara Bortolasci**				
1200-1245	**Lunch & Poster Viewing** William Magarey North					
1245-1405	**Plenary Session 6**					
Room	**William Magarey East**					
Chair	Felice Jacka					
1245-1305	**Keynote Presentation 18** *Genetics of depression* - **Prof Ma-Li Wong (SAHMRI)**					
1305-1325	**Keynote Presentation 19** *Innovations in youth substance abuse treatment* - **A/Prof Leanne Hides (QLD University of Technology)**					
1325-1345	**Keynote Presentation 20** *Harnessing cognitive lifestyle to better prevent dementia & cognitive impairment in late life* **- A/Prof Michael Valanzuela (University of Sydney)**					
1345-1405	**Keynote Presentation 21** *Distinguishing self from world in schizophrenia and schizotypy* **- Dr Thomas Whitford (University of NSW)**					
1405-1430	**Afternoon Tea & Poster Viewing** William Magarey North					

1430-1545	Concurrent Sessions					
	Symposium 8A ***Untangling paths to illness and health: Trajectories in psychosis***	**Symposium 8B** ***The prism of male depression: A multi-faceted examination***	**Free Communication 8C** ***Old Age Psychiatry***	**Symposium 8D** ***Post-mortem brain tissue in psychiatric research: a focus on gene expression, functional genomics, and clinical biomarkers***	**Free Communication 8E** ***Free Communications - Epidemiology***	**Symposium 8F** ***Recovery in Schizophrenia - the role of long acting injectable in protecting patient autonomy***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**Media Suite**
Chair	Scott Clark	Judy Proudfoot	Catherine Toben	David Stacey	Tracy Air	Bernhard Baune
1430-1445	*Trajectories of brain change in schizophrenia and other psychoses: Changes during emergence and relapse of illness* **Christos Pantelis**	*Assessing depression in men: The role of sex differences in longitudinal externalising and internalising depression symptom trajectories* **Simon Rice**	*Expert review of the DSM-5 criteria for diagnosing major depression in older Australian adults* **Heather Buchan**	*The Australian Brain Bank Network (ABBN): a national collaborative approach for the collection, handling, and distribution of post-mortem human brain tissue for neuroscience research* **David Stacey**	*Twenty-two shades of grey - the case for p<0.05 as an indicator of effectiveness in clinical trials* **Andrew Mackinnon**	*Evidence based psycho-social and long-acting injectable treatments for Schizophrenia* **Timothy Rolfe**
1445-1500	*Modeling trajectories in clinical high risk of psychosis* **Scott Clark**	*Doing what comes naturally: Positive strategies used by men to prevent depression and suicide* **Erin Whittle**	*Randomised controlled trial of group cognitive behavioural therapy compared to a discussion group for the treatment of comorbid anxiety and depression in older adults* **Viviana Wuthrich**	*Changes in dopamine pathway molecules and sex steroid receptors in the substantia nigra in schizophrenia* **Tertia Purves-Tyson**	*New item banks to assess mental health* **Phil Batterham**	*Recovery in Schizophrenia - the role of long acting injectable in protecting patient autonomy* **Anthony Harris**
1500-1515	*Functional recovery trajectories in FEP* **Mario Alvarez-Jimenez**	*The role of the media in encouraging men to seek help for depression or anxiety* **Kylie King**	*Financial strain and depressive symptoms in older men and women: Buffering effects of social resources* **Tim Windsor**	*Brain expressed enhancers are sites of copy number variation in ASD* **Irina Voineagu**	*New item banks to assess mental health: item selection process* **Jacqueline Brewer**	*Destigmatising long acting injectable in the eyes of the carers and families* **K. Oliver Schubert**
1515-1530	*It's about time: changing physical health trajectories for young people with psychosis* **Philip Ward**	*"I'll deal with it, it's my problem, I'm a man": Lessons from men's experiences of depression and suicide* **Michael J. Player**		*From brain banking to clinical biomarkers: Fact or fantasy?* **Brian Dean**	*Ethical oversight and participant protection in psychiatric clinical trials* **Melissa Raven & Jon Jureidini**	*Abilify Maintena - its place in the current treatment armamentarium* **Dennis Liu**
1530-1545		*Too costly to ignore: responding to the economic costs of young men's poor mental health* **Gillian Vogl**				
1545-1615	**The Australian Rotary Health Knowledge Dissemination Oration Award - Rotary - William Magarey East - Dr Lexine Stapinski**					
1615-1645	**Presentation of Awards & Conference Close - William Magarey East**					

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SMHR2014

Bridging the Gap

SOCIETY FOR MENTAL HEALTH RESEARCH (SMHR) CONFERENCE

3-5 December 2014

Adelaide Oval, **ADELAIDE**

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INVEGA SUSTENNA® Minimum Product Information: INVEGA SUSTENNA® (paliperidone palmitate) modified release aqueous suspension for intramuscular injection. **Indication:** INVEGA SUSTENNA® is indicated for the acute and maintenance treatment of schizophrenia in adults. **Dosage:** For patients who have never taken oral paliperidone or oral or injectable risperidone, it is recommended to establish tolerability with oral paliperidone or oral risperidone prior to initiating treatment. Recommended initiation of INVEGA SUSTENNA® is with a dose of 150 mg on treatment day 1 and 100 mg one week later (day 8), both administered in the deltoid muscle. The recommended subsequent monthly dose is 75 mg; this can be increased or decreased in the range of 25 to 150 mg based on individual patient tolerability and/or efficacy. Following the second dose, monthly doses can be administered in either the deltoid or gluteal muscle. Adjustment of the maintenance dose may be made monthly. When making dose adjustments, the prolonged-release characteristics of INVEGA SUSTENNA® should be considered, as the full effect of the dose adjustment may not be evident for several months. See full PI for switching information from other oral and long-acting injectable antipsychotics; dosage in special populations; maintenance therapy and missed doses. **Administration:** Consult full PI for instructions for use. **Contraindications:** Hypersensitivity to either paliperidone or risperidone, or to any of the excipients in the INVEGA SUSTENNA® formulation. **Precautions:** Use in the elderly; use in elderly patients with dementia; extrapyramidal symptoms including akathisia; use in pregnancy; QT prolongation; neuroleptic malignant syndrome; tardive dyskinesia, hyperglycemia and diabetes mellitus; weight gain; hyperprolactinaemia; orthostatic hypotension and syncope; leukopenia, neutropenia and agranulocytosis; venous thromboembolism; potential for cognitive and motor impairment including somnolence, sedation, impairment of judgment, thinking or motor skills; seizures; dysphagia; suicide; priapism; disruption of body temperature regulation; administration care to avoid inadvertent injection into a blood vessel; use in patients with concomitant illness; use in patients with renal impairment; use in patients with hepatic impairment; use with alcohol. **Interactions with other medicines:** Centrally acting drugs and alcohol; medicines known to cause QT prolongation; medicines containing risperidone; medicines that induce orthostatic hypotension; carbamazepine. **Adverse Reactions:** Insomnia, headache, agitation, somnolence/sedation, dizziness, injection site pain, akathisia, and vomiting. Others see full PI. **Presentation:** 25 mg, 50 mg, 75 mg, 100 mg and 150 mg paliperidone (as palmitate) in a pre-filled syringe along with 2 safety needles (a 1 ½ inch 22 gauge safety needle and a 1-inch 23 gauge safety needle). **Date of Preparation:** Aug 2013. **References:** 1. Caroli F *et al. Patient Prefer Adherence* 2011;5:165–71. 2. Heres S *et al. Int Clin Psychopharmacol* 2007;22(5):275–82. 3. INVEGA SUSTENNA® Product Information, April 2013. Janssen-Cilag Pty Ltd. ABN 47 000 129 975. 66 Waterloo Road, North Ryde NSW 2113. AU-INS0307. Date Prepared: October 2014.

Offered the choice, many patients who have tried a long-acting antipsychotic would welcome it as their on-going therapy; around a third felt it would even improve their relationship with their doctor.[1,2] So make sure your patients know about once-monthly Invega Sustenna.[3]

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Welcome from the Conference Convener

Dear Colleagues,

On behalf of the organising committee, we would like to welcome you to the 2014 Society of Mental Health Research Conference taking place in Adelaide, one of the world's most livable cities. This year's Conference is the first annual meeting since the historic transition from the former Australasian Society of Psychiatric Research (ASPR) to the new **Society of Mental Health Research (SMHR)**. This historic event will be marked by a special ceremony as part of the conference opening.

The theme of this year's Conference is ***"Mental Health Research in Transition - Bridging the Gap".*** The theme reflects the need to embrace a truly multi- and transdisciplinary approach and the need to develop novel approaches to Mental Health Research by increasing the understanding of the interconnectedness of various areas such basic science, clinical research and mental health policy development. Identifying and bridging both knowledge and practice gaps between what are often perceived as disparate areas are important challenges in Mental Health Research across the complete spectrum of clinical diagnoses and Public Mental Health matters. The Society of Mental Health Research is the only Australasian Conference with such a broad scope.

The Conference scientific program embraces state of the art multidisciplinary approaches that are used to facilitate our understanding of and practice in dealing with Mental Health conditions. The program stimulates discussions of *forward and backward translational research* ranging from basic science to clinical research, public mental health and policy development to bridge current and future knowledge and practice gaps in the field. The Conference format includes international and national keynote and plenary speakers covering a range of topics in the biological, clinical, epidemiological, psychological, social and translational sciences in addition to a large number of diverse symposia, oral sessions and workshops covering a large range of interests from researchers and clinical audiences. This year's conference will have a dedicated poster session with the opportunity for formal poster presentations and evaluation. Numerous awards are available this year.

Social events include the Welcome Reception at the Adelaide Oval, the Conference Dinner at the renowned National Adelaide Wine Centre with a special dinner presentation and opportunities to take tours in the newly refurbished Adelaide Oval and the iconic building of the South Australian Health and Medical Research Institute (SAHMRI).

We would like to take the opportunity to thank the Organising, Scientific and Social Committees who worked hard to deliver a diverse and intellectually stimulating conference. We are grateful to our keynote and invited speakers for sharing their enormous contributions to the field. We also thank the many presenters for oral and poster sessions to make important contributions from their field of research. We wish to thank the sponsors for their support of mental health research in Australia.

We trust you will enjoy the Conference.

Professor Bernhard Baune
Conference Convener

Professor Patrick McGorry
President, SMHR

Welcome from the SMHR President

A very warm welcome to Adelaide and to the next exciting stage of mental health research in Australia! In 1977, Gough Whitlam was still Labor leader, I was an intern at Royal Newcastle Hospital and ASPR, the Australian Society for Psychiatric Research, was founded by Scott Henderson, Graham Burrows, Peter Beumont and Issy Pilowsky. The vision of these founders has been a unique gift to generations of would-be mental health researchers including myself. ASPR has been a nurturing and unifying culture and forum which has enabled us all to develop confidence, expertise and collaborations with kindred spirits. On behalf of everyone who has been part of the research family the Founders created I want to thank them most sincerely and offer our gratitude and appreciation. We are fortunate that Professors Henderson and Burrows will be joining us in Adelaide for this year's conference, and to help us usher in a new stage of the organization's growth and development.

Last year a journalist, David Bassanese, approached me to propose that we approach the ABC to hold a national telethon to raise funds for mental health research. His daughter has autism and he was keen to help stimulate new research to find a cure. I enlisted the support of Andrew Denton, a well known supporter of mental health (and the South Sydney Rabbitohs), and we wrote a joint letter on ASPR letterhead to the ABC's Managing Director Mark Scott. The response was extremely positive and the ABC immediately grasped the opportunity for national leadership. They took the idea, injected it with steroids, and it became an all platform, full week of mental health programming of wonderful taste, humour, reality and quality, and this spawned a truly national conversation. It also raised $1.5m for mental health research, which will go to support early career researchers. We hope the event will be repeated next year and will become an annual fixture. The value is not just for research but for increasing awareness and reducing stigma. However this awareness at some point must be translated into more investment in clinical care and research and a fair deal for people with and researchers in mental health.

Another opportunity for mental health research is nested within the proposed new Medical Research Future Fund (MRFF). It is crucial that we as a Society engage with this strongly and ensure that we seek a better deal if there is growth phase in medical research funding. We have certainly flatlined in the current NHMRC system and made little progress in that sphere in recent years, mired on less than 7% of the funding with very low success rates, though this is admittedly a wider and growing problem with NHMRC.

We have with the strong support of the membership, changed the name and brand of the Society and we will modernise the corporate governance as the next step in order to assume a stronger role in research advocacy and fundraising to support our constituency especially the next generation of researchers. Every researcher in mental health in Australia should see the value in becoming a member of SMHR and as the peak and unifying force we will fight strategically and hard for the field and for the discoveries that our patients and everyone with mental ill health needs. In closing I would like to thank the Executive of SMHR, particularly Frances Kay-Lambkin and Sue Cotton who were hugely effective in the "Mental As" effort, and especially to Jo Fitzsimons whose dedication and skill was the key to the success of all the complex initiatives this year especially "Mental As" and the constitutional changes. Special thanks too to Alice MacDougall and Stephen Carlton of Herbert Smith Freehills for pro bono legal advice and of course to the wonderful ABC. I hope you all enjoy the conference and will sign up for the cause. The next few years should be truly exciting and even transformative!

Kindest regards

Professor Patrick McGorry
President, SMHR

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Industry Display

The industry display will be held in the William Magarey North Room of the Adelaide Oval. All catering will also be served in this area.

The Conference gratefully acknowledges the following organisations for their support:

	Table Display/s
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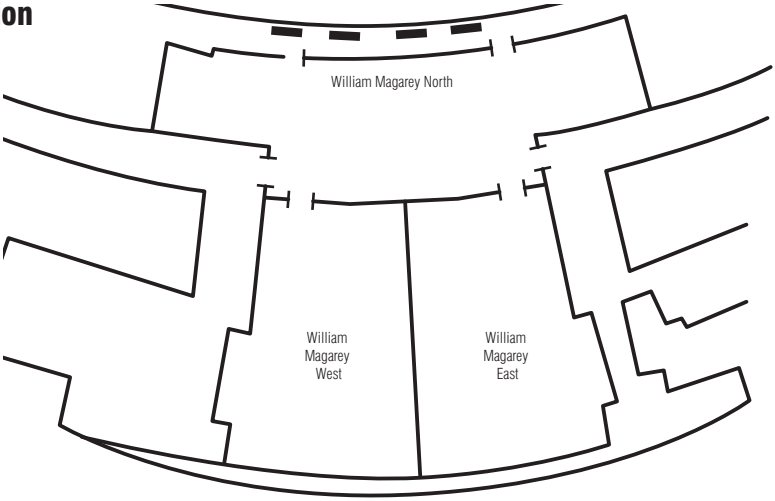
Industry Display Opening Hours

Wednesday 3 December	0830-1815hrs
Thursday 4 December	0815-1700hrs
Friday 5 December	0815-1545hrs

Exhibition Floor Plan



Conference Venue

Adelaide Oval

War Memorial Drive
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Adelaide Oval has long provided the perfect location to host private functions and events. As one of South Australia's most impressive venues – boasting picturesque views of the hallowed turf, the city, St Peter's Cathedral and more – it provides a unique setting to entertain clients, celebrate milestones or network in style.

The Conference takes place at the Adelaide Oval and will be held in the following rooms:

Registration and Information Desk

William Magarey North Room

Industry Display

William Magarey North Room

Plenary Sessions

William Magarey East Room

Concurrent Sessions

William Magarey East Room, SANFL Chairman's Room, Premiership Suite, One, Leigh Whicker Room, SACA Boardroom

Registration and Information Desk

The Registration and Information Desk will be located in the William Magarey North Room. The desk will be open as follows:

Wednesday 3 December	0730-1900hrs
Thursday 4 December	0730-1730hrs
Friday 5 December	0800-1645hrs

Speakers Preparation Room

The Speakers' Preparation Room will be open as follows:

Wednesday 3 December	0730-1600hrs
Thursday 4 December	0730-1500hrs
Friday 5 December	0730-1430hrs

Pre-Conference Workshop Venue

Barr Smith South Building,
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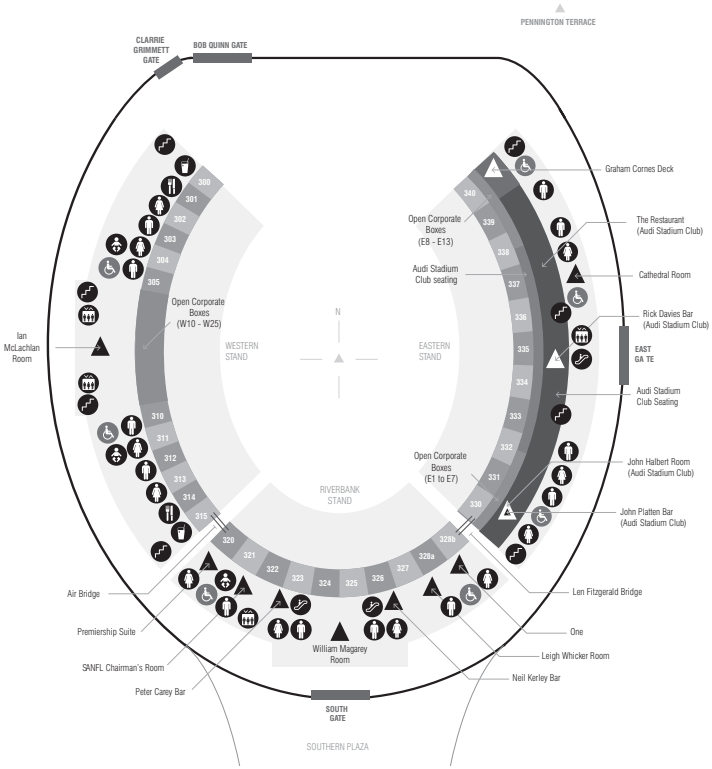

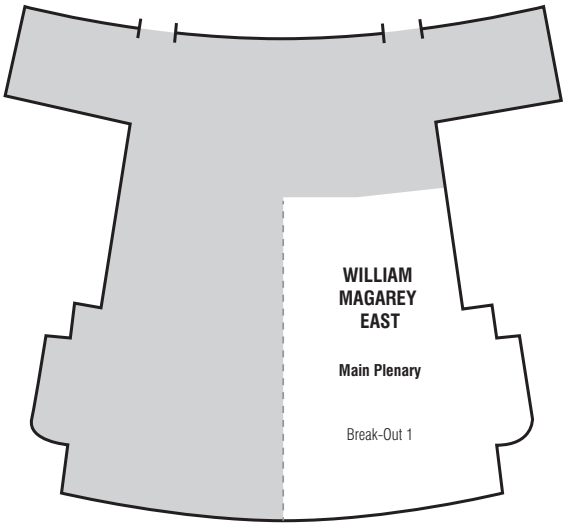

General Information

Catering

All lunches, mornings and afternoon teas will be served in the William Magarey North Room.

Car Parking

There are two Wilson Parking car parks located at Adelaide Oval. All conference delegates are entitled to a special rate of $13.00 per car, per day.

1. Adelaide Oval East Car Park: Entry via King William Rd - between War Memorial Drive and Pennington Terrace.
2. Adelaide Oval North Car Park: Entry via Pennington Tce, North Adelaide

Certificate of Attendance

A certificate of attendance will be emailed following the Conference.

Delegate List

A delegate list has been distributed electronically prior to the Conference. Delegates who indicated on their registration form that they did not want their details to appear on the list will be excluded.

Disclaimer

SMHR, the Conference Organising Committee and WALDRONSMITH Management will not accept liability for the damages of any nature sustained by participants or their accompanying persons for loss or damage to their personal property as a result of SMHR 2014 and exhibition or related events.

Dress Code

The Conference dress code is smart casual.

Internet Access

Wireless internet is available for delegates attending SMHR 2014. To access the wireless internet, please see the registration desk for your individual access code.

Insurance

Registration fees do not include insurance of any kind. The Conference Organisers, Organising Committee and The Society for Mental Health Research will take no responsibility for any participant failing to insure.

Mobile Phones

As courtesy to fellow delegates, mobile phones should be switched off or on silent during Conference sessions.

Name Badges and Security

Your official Conference name badge must be worn at all times, as it is your entry to all sessions and functions. Entry to anyone not wearing their name badge will be refused.

People with Special Needs

Every effort will be made to ensure that delegates with special needs are catered for. However, any special requirements advised onsite at the Conference, without prior notice, cannot be guaranteed.

Special Dietary Requirements

Every effort is made to ensure people with special needs are catered for. Should you require any specific assistance, please include a notation with your registration form to enable us to make your stay in Adelaide a pleasant and comfortable experience.

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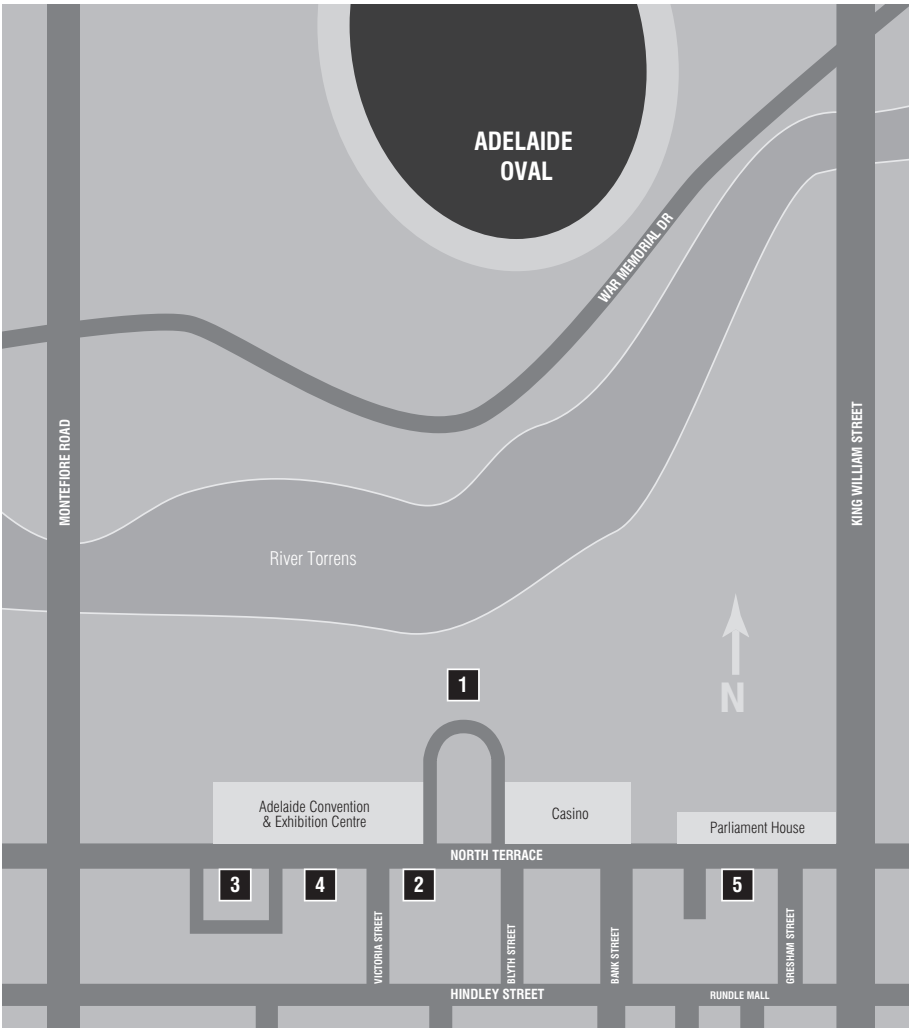

Opening Address Speakers

Mrs Leesa Vlahos
Representative of The Hon. Minister Jack Snelling - Minister for Health; Mental Health and Substance Abuse; Arts; Defence Industries and Health Industries

Professor Scott Henderson
Founder, Australasian Society for Psychiatric Research (ASPR)

Professor Graham Burrows
Founder, Australasian Society for Psychiatric Research (ASPR)

Professor Pat McGorry
President, Society for Mental Health Research

Keynote Speakers

International Keynote Speakers

Professor David Cotter

RCSI Psychiatry, Royal College of Surgeons in Ireland, Ireland

Professor David Cotter trained in psychiatry at St John of God Hospital Dublin and the Institute of Psychiatry, London. His PhD from University of London in 1998 was supervised by Professors Ian Everall and Robert Kerwin Robin. He is Associate Professor in Psychiatry at the Royal College of Surgeons in Ireland, Dublin, and is the holder of a Clinician Scientist Fellowship from the Health Research Board Ireland. His research area of interest is the neuropathology of schizophrenia with a particular focus on proteomic investigations of the brain, and plasma proteins. His current research program focuses on plasma protein biomarkers of psychosis and risk of transition from the at risk mental state to psychotic disorder.

Professor Roger McIntyre

University of Toronto, Canada

Professor Roger McIntyre is currently a Professor of Psychiatry and Pharmacology at the University of Toronto and Head of the Mood Disorders Psychopharmacology Unit at the University Health Network, Toronto, Canada.

Professor McIntyre is involved in multiple research endeavours which primarily aim to characterise the association between mood disorders, notably cognitive function and medical comorbidity. His works broadly aims to characterise the underlying causes of cognitive impairment in individuals with mood disorders and their impact on workplace functioning. This body of work has provided a platform for identifying novel molecular targets to treat and prevent mood disorders and accompanying cognitive impairment.

Professor McIntyre is extensively involved in medical education. He is a highly sought-after speaker at both national and international meetings. He has received several teaching awards from the University of Toronto, Department of Psychiatry and has been a recipient of the joint Canadian Psychiatric Association (CPA) / Council of Psychiatric Continuing Education Award for the Most Outstanding Continuing Education Activity in Psychiatry in Canada.

Professor McIntyre is the co-chair of the Canadian Network for Mood and Anxiety Treatments (CANMAT) Task Force on the Treatment of Comorbidity in Adults with Major Depressive Disorder or Bipolar Disorder and as well a contributor to the CANMAT guidelines for the treatment of Depressive Disorders and Bipolar Disorders. Professor McIntyre has published hundreds of peer-reviewed articles and has edited and/or co-edited several textbooks on mood disorders.

Professor McIntyre completed his medical degree at Dalhousie University. He received his Psychiatry residency training and Fellowship in Psychiatric Pharmacology at the University of Toronto.

Dr Robert K. Heinssen

National Institute of Mental Health, USA

Dr Robert Heinssen is Director of the Division of Services and Intervention Research at the National Institute of Mental Health (NIMH) in Bethesda, Maryland. He has played a key role in launching major NIMH research initiatives in early psychosis, including the North American Prodrome Longitudinal Study and the Recovery After an Initial Schizophrenia Episode (RAISE) initiative. Dr Heinssen earned a doctoral degree in clinical psychology from Catholic University, was a clinical fellow at McLean Hospital/Harvard Medical School, and completed residency at Chestnut Lodge Hospital. He is a board certified, licensed psychologist and a Fellow of the American Academy of Clinical Psychology.

Invited Speakers

National Keynote Speakers

Dr Emma Barkus
Wollongong University

Associate Professor Anthony Hannan
University of Melbourne

Associate Professor Leanne Hides
Queensland University of Technology

Dr Natalie Parletta
University of South Australia

Associate Professor Simon Bell
Monash University

Associate Professor Anthony Harris
Sydney University

Dr Kristin Laurens
University of New South Wales

Dr Simone Reppermund
University of New South Wales

Associate Professor Thomas Burne
University of Queensland

Associate Professor Ben Harrison
University of Melbourne

Professor Vera Morgan
University of Western Australia

Professor Julio Licinio
South Australian Health and Medical Research Institute (SAHMRI)

Associate Professor Kate Scott
University of Otago

Professor Tracey Wade
Flinders University

Professor Ma-Li Wong
South Australian Health and Medical Research Institute (SAHMRI)

Associate Professor Michael Valenzuela
Sydney University

Dr Thomas Whitford
University of New South Wales

Associate Professor Naomi Wray
University of Queensland

Workshops

Pre-Conference workshops for SMHR 2014 will be held on Tuesday 2 December 2014 at the University of Adelaide Campus.

All workshops will be held in the Barr Smith South Building.

FULL DAY WORKSHOPS

Date: Tuesday 2 December
Time: 1030-1630hrs
Registration Opens from 1000hrs

WORKSHOP 1:
AUSTRALIAN ROTARY HEALTH: MEDIA AND PRESENTATION TRAINING WORKSHOP FOR EARLY CAREER RESEARCHERS

Location: Faculty of Health Sciences, Floor 2 Barr Smith South Building, University of Adelaide Campus

Presenters: Professor Rob Morrison OAM, *Flinders University of South Australia and*

Professor Michael Sawyer OAM, *University of Adelaide, South Australia*

WORKSHOP 2:
PSYCHOLOGICAL INTERVENTIONS FOR BIPOLAR DISORDER: BEST PRACTICE AND FUTURE DIRECTIONS

Location: Faculty of Health Sciences, Floor 2 Barr Smith South Building, University of Adelaide Campus

Presenter: Professor Greg Murray, *Swinburne University, Melbourne, Australia*

HALF-DAY WORKSHOPS

Date: Tuesday 2 December
Time: 1330-1630hrs
Registration opens from 1300hrs

WORKSHOP 3:
TREATING CLINICAL PERFECTIONISM

Location: Faculty of Health Sciences, Floor 2 Barr Smith South Building, University of Adelaide Campus

Presenter: Tracey Wade, *School of Psychology, Flinders University*

WORKSHOP 4:
UNDERSTANDING AND USING LANGUAGE AS A KEY RESOURCE IN PSYCHIATRIC PRACTICE

Location: Faculty of Health Sciences, Floor 2 Barr Smith South Building, University of Adelaide Campus

Presenters: Jon Jureidini, *Women's and Children's Hospital, Adelaide, Australia and*

John Walsh, *University of Adelaide, Adelaide, Australia*

WORKSHOP 5:
DON'T JUST SCREEN INTERVENE: PRACTICAL STRATEGIES TO IMPROVE PHYSICAL HEALTH IN PEOPLE EXPERIENCING SERIOUS MENTAL ILLNESS

Location: Faculty of Health Sciences, Floor 2 Barr Smith South Building, University of Adelaide Campus

Presenters: Andrew Watkins, *Early Psychosis Program, Bondi Centre, South Eastern Sydney Local Health District, Sydney, Australia & Faculty of Health, University of Technology, Sydney, Australia;*

Scott Teasdale, *Early Psychosis Program, Bondi Centre, South Eastern Sydney Local Health District, Sydney, Australia & School of Psychiatry, University of New South Wales, Sydney, Australia;*

Simon Rosenbaum, *Early Psychosis Program, Bondi Centre, South Eastern Sydney Local Health District, Sydney, Australia & School of Psychiatry, University of New South Wales, Sydney, Australia and*

Philip Ward, *School of Psychiatry, University of New South Wales, Sydney, Australia Schizophrenia Research Unit, South Western Sydney Local Health District, Sydney, Australia*

SMHR 2014 Conference Awards

SMHR Founders Medal

This award was named in honour of the four founders of SMHR: Professors Scott Henderson, Issy Pilowsky, Graham Burrows and Peter Beaumont. The medal is awarded to persons who, over their entire careers, have made a contribution of significance to psychiatric research. The award winner will deliver an oration at the 2014 Conference.

Current award holder:

- 2013 Professor Helen Christensen

BUPA Health Foundation Oration Award

This Oration is given at each conference by a member of SMHR who is prominent or rising to prominence in the Australian and New Zealand psychiatric research community. The award includes a certificate, $8000 towards the awardee's research and all conference expenses paid. The award winner will deliver an oration at the 2014 Conference.

Current Award Holder (Roche Oration Award):

- 2013 Professor Julio Licinio

Lundbeck Institute Award

The Lundbeck Institute Award is intended for SMHR researchers whose work is beginning to make a significant impact on the national and international scene, reflecting either scientific excellence or public impact (or both) - the "rising stars" in mental health research. The award includes a certificate and $1000.

Current Award Holder:

- 2013 Associate Professor Felice Jacka

Australian Rotary Health (ARH) Knowledge Dissemination Award

SMHR has a number of awards acknowledging excellence in research. However, there is often a gap between knowledge gained through research and the dissemination of that knowledge to clinicians, consumers and carers, and its implementation into policy and practice. ARH has therefore established an annual award to recognise excellence in knowledge dissemination and research translation. The award consists of a framed certificate and the expenses of attending the SMHR conference. The winner will be expected to present and to be available to Rotary for no less than three speaking engagements over the ensuing 12 months.

Current Award Holder:

- 2013 Dr Maree Yap

SMHR Early Career Scholar Award

(previously AFFIRM Early Career Research Scholar Award)

This award is for a researcher early in their career to enable attendance at the 2014 SMHR Conference. The award includes a certificate and 2014 SMHR Conference registration fees.

Current award holder:

- 2013 Adrienne O'Neill

SMHR Consumer-Researcher Award

The SMHR Consumer-Researcher Award has been set up to encourage the involvement of consumers as investigators in psychiatric research as well as encourage consumer-oriented research. In 2014, SMHR will award the Consumer-Researcher Award on the basis of research posters submitted to the 2014 SMHR Annual Conference. SMHR will invite representatives from a consumer organisation to take a prominent role in judging the posters. A certificate and award of $1000 will be presented at the Annual Conference.

Current Award Holder:

- 2013 Philip Batterham

SMHR-Schizophrenia Fellowship of NSW Research Trust Fund Consumer-Researcher Award

A certificate and award of $500 will be presented at the Annual Conference. The conditions of this award are the same as the conditions of the SMHR Consumer-Researcher Award. This award is offered to the second place getter.

Current Award Holder:

- 2013 Tonelle Handley

Depression & Anxiety Consumer Research Unit (CRU) Medal

The CRU Medal has been established to promote and recognise the contribution of consumer researchers to field of depression and anxiety disorders. In 2014, this award will be presented to the consumer-researcher who is judged to best meet the selection criteria based on a short written submission to the judging panel. The panel will be comprised of consumers with lived experience of a depression or anxiety disorder and will be chaired by the Director of the Depression and Anxiety Consumer Research Unit at CMHR, ANU. A certificate and medal will be presented at the Annual SMHR Conference.

Current Award Holder:

- 2013 Not awarded

Best Presentation and Best Poster Awards

These awards are made at each SMHR conference for a variety of categories of oral and poster presentations. The following awards will be available at the 2014 SMHR Conference. If there are joint winners for one award, the amount will be split evenly between the winners.

- Best SMHR Debut presentation – certificate and $500
- Best SMHR Debut poster – certificate and $500
- Best Student oral presentation - certificate
- Best Student poster - certificate
- Best ECR oral presentation – certificate and $500
- Best ECR poster – certificate and $500
- Best oral presentation – overall – certificate and $500
- Best poster – overall – certificate and $500

Current Award Holders

- Best Debut Presentation 2013: Simon Rice
- Best Poster 2013: Katerina Stephanou

Grants-in-Aid

SMHR funds grants-in-aid for students and early career researchers to facilitate attendance at the 2014 SMHR Conference. Up to 8 Grants-in-Aid (valued at up to $500) are available for students and early career researchers to facilitate attendance at the SMHR conference, covering travel and standard accommodation.

Current Award Holders:

- 2013: Katie Douglas, David Erceg-Hurn Sarah Hiles, Janice Withnall, Miriam Forbes, Kristie Smith, Natalia Yee, Sean Hatton

Schizophrenia Fellowship of NSW Research Trust Fund Bursary/Travel Award

The award is open to all young researchers, engaged in or just completed promising research and may need assistance to be able to attend the SMHR conference. A certificate and award of $500 will be presented at the Annual Conference.

Current Award Holder:

- 2013 Tamsyn Van Rheenan

Social Program

Delegates are invited to enjoy a range of social events as part of the SMHR 2014 conference.

Welcome Reception

Wednesday 3 December 2014 | 1830-2030hrs

Venue: Lindsay Head Terrace, Adelaide Oval

Dress Code: Smart casual

Cost: Included for all full registrations

Tickets: Additional tickets are available $85 per person

Entertainment: Alex and the Savages

As the first official social event of the SMHR 2014 conference, the Welcome Reception provides you with the opportunity to relax and enjoy the company of colleagues and friends. The Welcome Reception will be held on the Lindsay Head Terrace on Level 5 of the Adelaide Oval which boasts stunning views over the city of Adelaide and the foothills beyond.

Conference Gala Dinner

Thursday 4 December 2014 | 1900-2300hrs

Venue: National Wine Centre of Australia, Cnr Botanic and Hackney Roads, University of Adelaide, South Australia

Dress Code: Smart Casual

Cost: Tickets are NOT included in the delegate registration fee. Tickets can be purchased from the registration desk for $130 per person

Entertainment: Orkestra de la Music Adelaide

Guest speaker: Professor Bob Goldney, Emeritus Professor, Discipline of Psychiatry, University of Adelaide

Enjoy an evening with colleagues and friends at the renowned National Wine Centre of Australia. Situated on the edge of Adelaide's stunning Botanic Gardens the centre combines eye-catching architecture and smooth functionality to create an exciting Conference Gala Dinner venue.

The dinner will feature guest speaker Professor Bob Goldney, discussing the topic **"Can we learn from history in bridging the gap?"**

Adelaide Oval Tours

Wednesday 3 – Friday 5 December 2014
60 minute guided tour during conference lunch breaks

Cost: $10 per person

Booking: If you would like to attend, please see the registration desk to enquire about tour availability.

The Adelaide Oval Tours take you behind the scenes to the inner workings of this iconic ground. You will be guided through the stadium by our expert volunteer guides whose passion for the oval is infectious and their stories captivating.

South Australian Health and Medical Research Institute (SAHMRI) Tours

Wednesday 3 – Friday 5 December 2014
45 minute guided tour during conference lunch breaks.

Venue: SAHMRI Offices, North Terrace, Adelaide

Cost: Free

Booking: Tours are strictly limited to 20 people, per day. Please see the conference registration desk to sign up for the daily tours.

The South Australian Health and Medical Research Institute (SAHMRI), opened in 2013, is South Australia's latest architectural icon. Its design supports a new and liberating lab typology that promotes collaboration and medical discovery, attracting the best researchers from around the world.

Explore this magnificent building, and enjoy breathtaking views over the River Torrens to Adelaide Oval, and over the developing largest biomedical precinct of the Southern Hemisphere, including the New Royal Adelaide Hospital.

Conference Program

WEDNESDAY 3 DECEMBER 2014

0730-1900	**Registration and Information Desk Open**
0830-0915	**Official Conference Opening**
Room	**William Magarey East**
Chair	Prof Pat McGorry – President SMHR
	WELCOME
0830-0835	**Introduction** **Prof Pat McGorry, President SMHR and Prof Bernhard Baune, Convenor SMHR 2014**
0835-0850	**Official Opening Address** **Mrs Leesa Vlahos** Representative of The Hon. Minister Jack Snelling Minister for Health; Mental Health and Substance Abuse; Arts; Defence Industries and Health Industries
0850-0915	*History of ASPR and transition to SMHR* – **Prof Scott Henderson, Prof Graham Burrows and Prof Pat McGorry**
0915-1055	**Plenary Session 1**
Room	**William Magarey East**
Chair	Prof Bernhard Baune
0915-0955	**Keynote Presentation 1** *From neuroproteomics to biomarkers for schizophrenia* – **Prof David Cotter (RCSI Psychiatry, Royal College of Surgeons, Ireland**
0955-1015	**Keynote Presentation 2** *Revisiting "high risk" for psychosis: environmental and genetic risk factors for psychotic illness* – **Prof Vera Morgan (University of WA)**
1015-1035	**Keynote Presentation 3** *Mental-physical comorbidity: key findings from the World Mental Health Surveys* – **A/Prof Kate Scott (University of Otago)**
1035-1055	**Keynote Presentation 4** *Gamma synchrony – a plausible pathophysiology in psychosis* – **A/Prof Anthony Harris (University of Sydney)**
1055-1115	**Morning Tea and Poster Viewing –** William Magarey North

1115-1245	Concurrent Sessions					
	Free Communication 1A	**Free Communication 1B**	**Free Communication 1C**	**Free Communication 1D**	**Symposium 1E**	**Free Communication 1F**
	Neuroimaging and cognition	***Neuropsychology of mental disorder***	***Psychotic disorders I***	***Psychotic disorders II***	***Psychoneuroimmunology: a wider perspective on mental health***	***Service delivery and health outcomes***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA Boardroom**
Chair	Cherrie Galletly	Malcolm Hopwood	Oliver Schubert	Scott Clark	Ute Vollmer-Conna	Malcolm Battersby
1115-1130	*Childhood physical abuse and neglect predict pituitary gland volume in first episode psychosis patients* **Christina Phassouliotis**	*Cross-modal integration of emotion in bipolar disorder* **Tamsyn Van Rheenen**	*Genome-wide association study for schizophrenia in Tamil Nadu Indians shows polygenic overlap with Europeans* **Bryan Mowry**	*Emotion recognition in unaffected first-degree relatives of individuals with first-episode schizophrenia: a potential endophenotype?* **Kelly Allott**	*Glial cells and psychiatric disorders* **Ian Paul Everall**	*It's not just about your head but why is it so hard to connect your body?* **Lisa Wilton**
1130-1145	*Diet quality is associated with hippocampal volume in humans* **Felice Jacka**	*Social cognition in neurocognitive deficit subtypes of schizophrenia and bipolar disorder* **Jesseca Rowland**	*Proteome and pathway effects of chronic haloperidol treatment in mouse hippocampus* **K. Oliver Schubert**	*Estimating the joint effect of familial risk for diabetes and antipsychotic drug treatment on risk for diabetes in a national cohort of adults with psychosis* **Debra Foley**	*Early-life influences on schizophrenia-related measures in a rat model of maternal immune challenge* **Deborah Hodgson**	*Recovery patterns during a 6-week admission to a non-acute Intermediate Stay Mental Health Unit (ISMHU)* **Terry Lewin**
1145-1200	*Behavioural and fMRI evidence of semantic categorisation deficits in schizophrenia* **Susan Rossell**	*The relationship between neurocognitive performance and general function in major depressive disorder* **Jennifer Chadbourne**	*Outcomes of non-transitioned cases in a sample at ultra-high risk for psychosis* **Ashleigh Lin**	*Subnormal sensory attenuation in schizotypy: electrophysiological evidence for a 'continuum of psychosis'* **Lena Oestreich**	*Early life stress and risk to adult psychiatric illnesses: role of neuro-immune interactions in shaping adult brain and behaviour* **Magdalene C Jawahar**	*Long acting intramuscular injections- the development and execution of a refresher training program for SA Mental Health Services* **Lisa Wilton and Bernie Stefan-Rasmus**

WEDNESDAY 3 DECEMBER 2014 *continued*

1200-1215	*Neural suppression of self-produced auditory but not visual sensations: relevance to psychotic symptoms* **Nathan Mifsud**	*Social cognition in depressed subjects: the role of symptom severity* **Tracy Air**	*Contrasting the expression of psychotic disorders in ethnically different populations: identifying deficit schizophrenia in transethnic samples* **Duncan McLean**	*The different stages of psychosis among adolescent detainees in New South Wales (NSW), Australia* **Natalia Yee and Kimberlie Dean**	*Determinants of post-infective fatigue syndrome: immunological and autonomic findings* **Ute Vollmer-Conna**	*Which QALY measures should we use? The comparison of health related quality of life measures, subjective wellbeing scales and severity scales in people with depression* **Cathrine Mihalopoulos**
1215-1230	*Role of N-acetyl aspartate and glutamate in memory impairment, symptom severity and age of onset in older people with remitted or mild depression* **Hirosha Keshani Jayaweera**	*Executive dysfunction in Phychosis Following Traumatic Brain Injury (PFTBI)* **Rachel Batty**		*Schizotypy and cognitive functioning in everyday life: an experience sampling study* **Nicole Carrigan**	*Cognitive ageing: a role for immune activation?* **Bernhard Baune**	*In the eyes of the provider: factors associated with developmental surveillance service provision* **My Trinh Ha**
1230-1245	*Striatal shape differences are associated with plasma glucose levels: the 2sweet project* **Nicolas Cherbuin**	*Is the clinical profile of Phychosis Following Traumatic Brain Injury (PFTBI) diagnostically distinct from schizophrenia/ schizoaffective disorder?* **Rachel Batty**			*Genetic findings in psychiatry: immune-related findings* **Julio Licinio**	*Cost – effectiveness of bipolar disorder treatments to assist priority setting in Australia* **Mary Lou Chatterton**
1245-1330	**Lunch and Poster Viewing** – William Magarey North					
1330-1430	**Plenary Session 2**					
Room	**William Magarey East**					
Chair	Prof Julio Licinio					
1330-1350	**Keynote Presentation 5** *Depression in old age – the first step to dementia?* – **Dr Simone Reppermund (University of NSW)**					
1350-1410	**Keynote Presentation 6** *Navigating the route from bench to bedside in eating disorders* – **Prof Tracey Wade (Flinders University)**					

1410-1430	**Keynote Presentation 7** *The "fear of fear" and its brain basis-* **A/Prof Ben Harrison (University of Melbourne)**					
1430-1500	**Afternoon Tea and Poster Viewing –** William Magarey North					
	Concurrent Sessions					
1500-1600	**Symposium 2A**	**Free Communication 2B**	**Symposium 2C**	**Symposium 2D**	**Free Communication 2E**	**Symposium 2F**
	Inflammatory and immune markers in psychopathology and the course of psychiatric illness	***Modelling of course of disease and treatment response***	***With or without you: should early intervention programmes for psychosis be delivered within or outside general adult mental health services?***	***Personality disorders: prevalence and pathology***	***Substance abuse disorders***	***New directions in eating disorder risk factor research***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA Boardroom**
Chair	Bernhard Baune and Vanessa Cropley	Scott Clark	Oliver Schubert	Carol Hulbert and Andrew Chanen	Cherrie Galletly	Kate Fairweather-Schmidt
1500-1515	*Animal models of immune markers and their association with cognition, social behaviour and anxiety* **Bernhard Baune**	*The naturalistic trajectory of quality of life in bipolar disorder* **Emma Morton**	*Specialist, stand alone early psychosis services – The EPPIC model* **Eóin Killackey**	*The prevalence of DSM-5 personality disorders in Australian women* **Shae Quirk**	*International trends over time in the prevalence and harms of alcohol and cannabis use: what is the evidence for the closing gender gap?* **Cath Chapman**	*Predicting outcomes in paediatric and adult inpatient eating disorder programs* **Eva Vall**
1515-1530	*Peripheral inflammation characterizes a subgroup of people with schizophrenia displaying poor verbal fluency and reduced Broca's area volume* **Vibeke Catts**	*Mortality 15-years after specialist early intervention treatment for the first episode of psychosis* **Susan Cotton**	*EPP – An integrated early intervention programme* **Melissa Petrakis**	*Interpersonal functioning and empathy in borderline personality disorder: the role of social perspective coordination* **Kate Caldwell**	*Long-term mortality, remission, criminality and psychiatric comorbidity associated with heroin dependence: 11 year findings from the Australian Treatment Outcome Study (ATOS)* **Joanne Ross**	*Mindfulness in schools: a transdiagnostic prevention programme* **Catherine Johnson**

WEDNESDAY 3 DECEMBER 2014 *continued*

1530-1545	*Investigating neuroinflammation in schizophrenia* **Vanessa Cropley**	*Long-term symptoms and functional trajectories of patients with major depressive disorder post hospital discharge* **Scott Clark**	*EPIS North: a consultation-based early psychosis intervention program supporting a general adult community mental health service* **K. Oliver Schubert**	*Substance misuse in youth with first presentation borderline personality disorder* **Franco Scalzo**	*Attention Deficit Hyperactivity Disorder (ADHD) among Australian substance use disorder treatment seekers* **Sharlene Kaye**	*Examination of the difficulties in emotion regulation scale and its relation to disordered eating in a young female sample* **Jane Cooper**
1545-1600	*Inflammatory cytokines in young people at ultra-high risk for psychosis* **G. Paul Amminger**	*Worker and patient moral framings of community treatment orders* **Sharon Lawn**	*Early intervention for psychosis in Ireland – a research-oriented integrated model with the adult mental health service* **Brian O'Donoghue**	*Symptomatic improvement and functional outcomes of adolescents with borderline personality disorder* **Carol Hulbert**	*Recruiting for mental health and substance use research via Facebook* **Louise Thornton**	*Suicidality and eating disorders: a genetic nexus?* **Kate Fairweather-Schmidt**
1600-1610	Change Over	Change Over	Change Over	Change Over	Change Over	Change Over
1610-1710	**Symposium 3A**	**Symposium 3B**	**Free Communication 3C**	**Symposium 3D**	**Symposium 3E**	**Free Communication 3F**
	Cognitive dysfunction in depression: clinical and functional relevance, neural basis and treatment implications	***Bridging the evidence-policy gap: issues and opportunities for evidence-based mental health***	***Mental health neuroscience I***	***Results from a large RCT of individual placement and support in first-episode psychosis***	***Behavioural assessments of psychiatric symptoms in animal models: the mechanisms involved***	***Recover and functional recovery***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA Boardroom**
Chair	Bernhard Baune	Carla Meurk	Ma-Li Wong	Cherrie Galletly	Emily J Jaehne	Chris Gale
1610-1625	*Clinical importance of cognitive dysfunction in depression* **Malcolm Hopwood**	*How can we reduce excess mortality due to chronic disease in people with severe mental illness? Implications for policy and practice* **Amanda J. Baxter**	*Cross-disorder cognitive subtypes among schizophrenia and bipolar disorder: common brain dysfunction?* **Melissa Green**	*Baseline to 18 months: main results from a randomised controlled trial of individual placement and support for young people with first-episode psychosis* **Eóin Killackey**	*Reverse translation of cognitive tasks for animal models of neuropsychiatric disorders* **Thomas Burne**	*Presenting the SIMI-LE: a measure of social inclusion for use with people with mental illness (long-edition)* **Kate Filia**

1625-1640	*Assessment and neuropsychological interventions for cognitive dysfunction in depression* **Sharon L Naismith**	*Defining minimally adequate treatment for schizophrenia: a review of evidence based treatment guidelines and systematic reviews* **Sandra Diminic**	*Using C-reactive protein genetic profile scores to predict risk of depression* **Natalie Mills**	*The relationship between vocational functioning and quality of life in people with first-episode psychosis* **Susan Cotton**	*Neurobiological mechanisms mediating cognitive deficits in animal models of affective-like disorders* **Thibault Renoir**	*A multi-site randomised controlled trial of evidence-based supported employment for adults with severe and persistent mental illness* **Shannon Dias**
1640-1655	*Imaging and neural basis of cognitive dysfunction in depression and neural basis of antidepressant treatment response* **Jim Lagopoulos**	*Developing an operational service platform concept to promote evidence-based planning and funding of the mental health service system* **Yong Yi Lee**	*Phenotypic and immunogenetic explorations of the acute sickness response to common infections: sick and tired or sad?* **Ute Vollmer-Conna**	*The relationship between neurocognition, social cognition and vocational engagement in first-episode psychosis* **Kelly Allott**	*'Two hit' animal models of developmental stress: sex-specificity and interaction of oestrogen and brain-derived neurotrophic factor in behavioural and molecular effects* **Maarten Van den Buuse**	*Enabling midlife women's self-discovery to strengthen self-care in early abstinent recovery* **Janice Withnall**
1655-1710	*Pharmacological treatment opportunities for cognitive dysfunction in depression* **Bernhard Baune**	*Bridging the evidence-policy gap through engagement with researchers, policy-makers and the public* **Carla Meurk**		*Learning and earning get you more than a job: impact of employment and education on mental health and other functional variables in first-episode psychosis* **Eóin Killackey**	*Assessing cognition-like, emotion-like and sociability behaviours in immune-transgenic mice* **Emily J Jaehne**	
1715-1815	**Poster Presentation and Judging**					
1715-1830	**Early Career Workshop** – William Margery East					
1830-2030	**Welcome Reception** – Lindsay Head Terrace – Live Music with ***Alex and the Savages***					

THURSDAY 4 DECEMBER 2014

0730-1730	**Registration and Information Desk Opens**
0815-1015	**Plenary Session 3**
Room	**William Magarey East**
Chair	Prof Helen Christensen
0815-0845	**BUPA Oration**
0845-0915	**SMHR Founders Medal**
0915-0955	**Keynote Presentation 8** *Connecting research and policy in early psychosis treatment*- **Dr Robert K. Heinssen (National Institute of Mental Health, Maryland USA)**
0955-1015	**Keynote Presentation 9** *Neuroendocrinology – the link between obesity and depression* – **Prof Julio Licinio (SAHMRI)**
1015-1035	**Morning Tea and Poster Viewing** – William Magarey North

1035-1150	Concurrent Sessions					
	Free Communication 4A	**Free Communication 4B**	**Free Communication 4C**	**Free Communication 4D**	**Symposium 4E**	**Free Communication 4F**
	Epidemiology and public health I	***Mood and anxiety disorders and trauma***	***Psychological interventions***	***Treatment innovations***	***Lifestyle approaches to mental health: the role of diet and nutrition***	***Free communications – clinical***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA Boardroom**
Chair	Frances Kay-Lambkin	Ute Vollmer-Conna	Sue Cotton	Tom Burne	Natalie Parletta and Felice Jacka	Chris Gale
1035-1050	*Comorbid attention deficit hyperactivity disorder and substance use disorder severity and chronicity in treatment-seeking adults* **Jesse Young**	*Nocebo effects in the treatment of major depression: results from an individual study participant level meta-analysis of the placebo arm of duloxetine clinical trials* **Seetal Dodd**	*The ORBIT project: pilot evidence for feasibility and efficacy of a novel international online mindfulness-based intervention for late stage bipolar disorder* **Greg Murray**	*Antidepressants and bone mineral density: a randomised controlled trial* **Michael Berk**	*Diet quality and mental health across the lifespan: updates and new directions* **Felice Jacka**	*Axis I and Axis II disorders in young people at ultra-high risk of developing a psychotic disorder: a long-term follow up study* **Anneliese Elizabeth Spiteri-Staines**
1050-1105	*Workplace bullying, psychosocial job quality and mental health: results from the PATH through life project* **Peter Butterworth**	*Can we boost the effects of internet-based cognitive behavioural therapy for depression with positive imagery cognitive bias modification? A randomized controlled trial* **Kathleen O'Moore**	*Cognitive adaptation training for first-episode psychosis: feasibility, acceptability and potential benefits* **Kelly Allott**	*NewAccess – introducing UK IAPT services to Australia: challenges and achievements* **Conrad Newman and Bronwyn Hall**	*Gut microbiota and autism spectrum disorder* **Michael Conlon**	*The longitudinal and intergenerational effects of childhood disaster exposure: how parental wellbeing can shape children' psychological health* **Miranda Van Hooff**

THURSDAY 4 DECEMBER 2014 *continued*

1105-1120	*The experiences of Australian men and women with psychosis: the second Australian national survey of psychosis* **Mary-Claire Hanlon**	*What interrupts a suicide attempt in men? The men's experiences of depression and suicide project* **Judy Proudfoot**	*Behavioural activation treatment for co-occurring depression and substance use disorder: the activate study protocol* **Xanthe Larkin**	*Randomised controlled trial of integrated CBT and motivational interviewing for comorbid social anxiety and alcohol use disorders* **Lexine Stapinski**	*Diet and children's behaviour problems* **Mickaela Schelleman**	*Supporting weight loss among people with mental disorders using meal replacement plans: a feasibility study* **Louise Thornton**
1120-1135	*The centrality of latent variables when examining the correlates of mental and substance use disorders* **Matthew Sunderland**	*Predictors of depression in the male partner 12 months following miscarriage* **Martin Johnson**	*Cost utility analysis of a psychological intervention in distressed cancer patients and carers: beating the blues* **Mary Lou Chatterton**	*e-Mental Health for depression in men: can a brief web and mobile phone intervention reduce depression and improve work and social functioning in men?* **Andrea Fogarty**	*The fish oil youth depression study: methodology and rationale of a randomized, placebo-controlled trial* **G. Paul Amminger**	
1135-1150	*The prevalence and correlates of Substance Use Disorders (SUDs) comorbid with mood disorders and anxiety disorders: a national perspective* **Katrina Prior**		*Research proposal: is communication skills training for healthcare workers a suitable strategy to reduce violence perpetrated by patients?* **Maria Baby**	*Adaptions of CBT for increased effectiveness with Aboriginal problem gamblers* **Sue Bertossa**	*Changing dietary behaviours in people with serious mental illness: the Helfimed Pilot Study* **Dorota Zarnowiecki**	
1150-1200	Change Over	Change Over	Change Over	Change Over	Change Over	Change Over

1200-1315	Free Communication 5A	Free Communication 5B	Free Communication 5C	Free Communication 5D	Free Communication 5E	Free Communication 5F
	Mental health neuroscience II	***Epidemiology and public health II***	***Youth mental health***	***Epidemiology and public health III***	***Child mental health***	***Free communications – Public health***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA Boardroom**
Chair	Emily Jaehne	Tracy Air	Sue Cotton	Vera Morgan	Michael Sawyer	Eóin Killackey
1200-1215	*Establishing electrophysiological biomarkers for major depressive disorder* **David Camfield**	*Health behaviours in people with severe mental illness across four countries – comparison with normative sample* **Natalie Parletta**	*Self-harm, psychotic symptoms and substance use in young offenders* **Rohan Borschmann**	*The Transition and Wellbeing Research Program: investigating the mental, physical, social and biological health of serving and ex-serving Australian Defence Force (ADF) personnel* **Miranda Van Hooff and Amelia Searle**	*Symptom screening scales for detecting major depressive disorder in children and adolescents: a systematic review and meta-analysis of reliability, validity and diagnostic utility* **Emily Stockings**	*The science of social media* **Helen Christensen**
1215-1230	*Exercise induced effects on anxiety, cognition, and depression in early adulthood and middle age* **Julie A Morgan**	*Does sponsorship still matter – a sub-analysis from a systematic review* **Christopher Gale**	*A needs assessment to improve mental health among vulnerable youth in out-of-home care* **Kristen Moeller-Saxone**	*The information needs of Australian health professionals providing mental health or substance use treatments* **Erica Crome**	*The clinical and diagnostic relevance of the information that children report during semi-structured clinical interviews* **Emily Macleod**	*A virtual mental health clinic for university students: a qualitative study of end user service needs and priorities* **Louise Farrer**
1230-1245	*Environmental enrichment and physical exercise: do they affect brain functions differently?* **Gaurav Singhal**	*Translation of e-mental health programs: development of the mental health call for action for the National Health and Medical Research Council* **Phil Batterham**	*Delayed sleep onset in depressed young people* **Bridianne O'Dea**	*Neighbourhood characteristics and the incidence of first episode psychosis (FEP) and duration of untreated psychosis (DUP)* **Brian ODonoghue**	*Emotional and behavioural problems and academic performance in 8-9 year old children* **Lisa Mundy**	*The effectiveness of interventions designed to reduce stigma: a meta-analysis* **Kathleen Griffiths**

THURSDAY 4 DECEMBER 2014 *continued*

1245-1300	*A model of continuous life stress in mice: assessment of the role of neuro- endocrine-immune mechanisms in adult behaviours* **Jason Izzo**	*Mental health in fathers with very young children: what role does job quality play?* **Liana Leach**	*Design of e-mental health technologies – impact of participatory methods* **Simone Orlowski**	*Predicting emotional vulnerability at age 5 using population-level perinatal information: a data linkage study* **Amelia Searle**	*Are sipping and drinking different? Parents, peers, and behaviour* **Monika Wadolowski**	*Participatory patterns of members in an Internet support group for depression and other mental health disorders* **Bradley Carron-Arthur**
1300-1315	*The effects of 'lifestyle choices' on a mouse model of schizophrenia – a preclinical perspective* **Tim Karl**	*The longitudinal impact of job strain on mental health and wellbeing* **Richard Burns**		*Major depressive disorder, use of antidepressants and bone mineral density (BMD)* **Michael Berk**		
1315-1400	**Lunch and Poster Viewing** – William Magarey North					
1400-1500	**Plenary Session 4**					
Room	**William Magarey East**					
Chair	Prof Ma-Li Wong					
1400-1420	**Keynote Presentation 10** *Food as medicine: the role of diet and nutrition in serious mental illness* – **Dr Natalie Parletta (University of SA)**					
1420-1440	**Keynote Presentation 11** *Premorbid correlates of risk for psychosis in childhood and adolescence: new targets for preventive interventions?* – **Dr Kristen Laurens (University of NSW)**					
1440-1500	**Keynote Presentation 12** *Progress in psychiatric genetics at last – how do we use what we have learned?-* **Prof Naomi Wray (University of QLD)**					
1500-1520	**Afternoon Tea and Poster Viewing** – William Magarey North					

1520-1650	Concurrent Sessions					
	Free Communication 6A	**Symposium 6B**	**Symposium 6C**	**Symposium 6D**	**Symposium 6E**	**Symposium 6F**
	Women's and child mental health	***Lifestyle approaches to mental health: the role of physical activity***	***Hearing voices and other hallucinations – A smorgasbord of basic and applied research findings***	***Work and mental health: is work part of the problem, part of the cure, or both?***	***Fostering translational psychiatry careers in the 21st century***	***Advancing psychiatric research via interagency linkage of population records: national and international examples***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA boardroom**
Chair	Amelia Searle	Natalie Parletta and Gaynor Parfitt	Susan L Rossell	Samuel Harvey	Bernhard Baune	Kristin Laurens
1520-1535	*Why do parents supply alcohol? Parenting practices, peers, and behaviour* **Monika Wadolowski**	*Environmental enrichment, exercise and experience-dependent plasticity in mouse models of psychiatric disorders* **Anthony J Hannan**	*Auditory verbal hallucinations and the integrity of the arcuate fasciculus: a diffusion tensor imaging study* **Simon McCarthy-Jones**	*Can work make us ill? Work and non-work risk factors for common mental disorder: prospective findings from a British birth cohort* **Samuel Harvey**	*Translational psychiatry careers: what is the definition, why are they important, who are the stakeholders?* **Bernhard Baune**	*Linking study samples to population registers: augmenting findings from a Danish RCT of early intervention in psychosis* **Kimberlie Dean**
1535-1550	*Preventing depression in children and adolescents: what works?* **Emily Stockings**	*Chronic physical exercise induced adaptations in the brainstem and hypothalamus: a brief review of exercise effects on stress responses, the circadian clock, and energy balance metabolism* **Julie A Morgan**	*Using magnetoencephalography (MEG) to evaluate neurocognitive models of auditory verbal hallucinations* **Susan L Rossell**	*The effectiveness of individual placement and support for people with severe mental illness: a systematic review and meta-analysis* **Matthew Modini**	*International perspectives on translational medicine and translational psychiatry* **Julio Licinio**	*Risk of offending in the offspring of mothers with severe mental illness* **Giulietta Valuri**

THURSDAY 4 DECEMBER 2014 *continued*

1550-1605	*Preschooler sleep problems: associations with maternal sleep-related cognitions, bedtime interactions and child anxiety* **Kerry-Ann Grant**	*Are the beneficial effects of exercise on anxiety symptoms and disorders mediated by inflammation and oxidative stress?* **Steven Moylan**	*Predictors of experimentally detected non-clinical hallucinations* **Emma Barkus**	*Cumulative stress exposure in Australian emergency services personnel and the risk of mental disorder* **Miranda Van Hooff**	*Developing clinical-academic skills and knowledge for medical students and residents* **Malcolm Forbes**	*Maternal psychosis, obstetric complications, and early neurodevelopmental outcomes* **Patsy Di Prinzio**
1605-1620	*Clinical profiles of women presenting to a Perinatal Mental Health Service (PMHS)* **Jeffrey Cubis**	*Does physical activity benefit cognitive function in older adults?* **Nicola Gates**	*Psychological treatment trials for hallucinations: what are we not learning?* **Neil Thomas**	*Not in Education, Employment or Training (NEET): characteristics of NEET status among help-seeking young adults* **Bridianne O'Dea**	*A trainee perspective on developing clinical-academic pathways in psychiatry* **Steven Moylan**	*Hospital admission for infections during early childhood and developmental vulnerabilities at age 5 years: evidence from the New South Wales Child Development Study* **Vaughan J Carr**
1620-1635	*The effect of postpartum depression on domains of everyday functioning of the mother, father and infant: a systematic review* **Edward Miller**	*Exercise and mental health: the relevance of intensity* **Gaynor Parfitt**	*The MODERN approach to hearing voices: qualitative and quantitative analyses of a hearing voices therapy group* **Vanessa Beavan**	*Tell them they're dreaming: why a new approach is needed to work and education for young people with mental illness* **Eóin Killackey**	*Exploring the role of senior academics, executives and thought-leaders in supporting clinical-academic pathways in psychiatry* **Pat McGorry**	*Impacts of stimulant comorbidity in schizophrenia: a study using linked NSW health data* **Grant Sara**
1635-1650	*The National Register of Antipsychotic Medication in Pregnancy (NRAMP): healthy mothers, healthy babies* **Jayashri Kulkarni**					*Do CTOs keep people out of hospital?* **Anthony Harris**
1700-1750	**SMHR Annual General Meeting**					
1900-2300	**Conference Dinner - National Wine Centre of Australia** Dinner Presentation: **Prof Bob Goldney** "Can we learn from history in bridging the gap?" *Live Music with Orkestra de la Music Adelaide*					

FRIDAY 5 DECEMBER 2014

0800-1700	**Registration and Information Desk Opens**
0815-1010	**Plenary Session 5**
Room	**William Magarey East**
Chair	Prof Malcom Hopwood
0815-0835	**Keynote Presentation 13** *Gene-environment interactions and experience-dependent plasticity in animal models of mental illness* – **A/Prof Anthony Hannan (University of Melbourne)**
0835-0855	**Keynote Presentation 14** *Profiling experiences after cannabis* – **Dr Emma Barkus (Wollongong University)**
0855-0915	**Keynote Presentation 15** *Opportunities for improving the quality use of medicines in people with dementia* – **A/Prof Simon Bell (Monash University)**
0915-0955	**Keynote Presentation 16** *Understanding disease models and treatment opportunities for cognitive dysfunction and depression from using the framework of research domain criteria* **- Prof Roger McIntyre (University of Toronto, Canada)**
0955-1010	**Keynote Presentation 17** Vitamin D signalling and brain function in adults – **A/Prof Thomas Burne (Universty of QLD)**
1010-1030	**Morning Tea and Poster Viewing** – William Magarey North

FRIDAY 5 DECEMBER 2014 *continued*

1030-1200	Concurrent Sessions					
	Free Communication 7A	**Free Communication 7B**	**Symposium 7C**	**Symposium 7D**	**Symposium 7E**	**Symposium 7F**
	Mood and anxiety disorders	***Mental health neuroscience III***	***Clozapine monitoring: bridging the gaps***	***Neuroprotection and neuroregeneration mechanisms in mental health disorders***	***Epigenetic changes and psychiatric illnesses: role of epigenome in shaping adult brain and behaviour***	***What do we know about comorbidity between substance use and mental health disorders? Implications for prevention and future directions***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA Boardroom**
Chair	Ute Vollmer-Conna	David Stacey	Scott Clark	Catherine Toben and Maarten Immink	Magdalene C Jawahar	Frances Kay-Lambkin
1030-1045	*Diet and the depressed diabetic: new insights from post-hoc analyses of the US National Health and Nutrition Examination Study* **Joanna Dipnall**	*The selective estrogen receptor modulators, raloxifene and tamoxifen, prevent dopaminergic-induced disruptions of prepulse inhibition* **Andrea Gogos**	*Clozapine and constipation* **Shuichi Suetani**	*What are the biological pathways linking diet and mental health?* **Felice Jacka**	*Epigenetics and depressive disorders: current progress and future directions* **Joanne Ryan**	*Temporal relationships between internalising (mood and anxiety) disorders and the initiation of alcohol use: findings from the 2007 National Survey of Mental Health and Wellbeing* **Louise Birell**
1045-1100	*Avoidant personality disorder: time for a re-think?* **Lisa Lampe**	*The P2X7-receptor antagonist A-804598 decreases anxiety-like behaviour post long term unpredictable chronic mild stress* **Franky So**	*Nurse –led clinics for clozapine monitoring, a South Australian perspective* **Lisa Wilton**	*Neuroimmune effects of short term administration of an inflammasome antagonist in a mouse model of long term unpredictable chronic mild stress* **Catherine Toben**	*DNA methylation: an epigenetic watermark of former cocaine exposure* **Danay Baker-Andresen**	*Drinking to cope: a latent class analysis of alcohol use motives in a large cohort of adolescents* **Lexine A Stapinski**

1100-1115	*Testing the waters or diving straight in? A preliminary analysis of discussion board engagement in the moodswings online intervention for bipolar disorder (www.moodswings.net.au)* **Emma Gliddon**	*PANACEA: the post anaesthesia N-Acetyl-Cysteine evaluation trial* **Olivia Dean**	*Joining the clozapine dots across a million square kilometers in country South Australia* **Grace Macdonald**	*The effects of lithium and quetiapine on neuropsychological functioning in the early stages of mania* **Rothanthi Daglas**	*The impact of childhood maltreatment on methylation in the serotonin transporter gene in a clinical case-control depression sample* **Sarah Cohen-Woods**	*An integrated approach to preventing substance use in adolescents: 12-month outcomes of the CAP (Climate and Preventure) intervention* **Tim Slade**
1115-1130	*The structure of negative mood states: twin-study evidence for a causal influence of stress-tension on depression and anxiety* **Christopher Davey**	*Alterations in kynurenine pathway metabolites in the blood of people with schizophrenia* **Katerina Zavitsanou**	*Clozapine patients can successfully be transitioned into GP shared-care or private psychiatrist care* **Jayashri Kulkarni**	*Yoga for emotional wellbeing following brain insult: preliminary research in a stroke population* **Maarten A. Immink**	*Pharmacoepigenetics: prediction of treatment response to antidepressants through DNA methylation analyses in the 5HTT and MAO genes* **Bernhard Baune**	*Modelling psychopathology structure: a developmental perspective* **Natacha Carragher**
1130-1145	*Distinguishing between unipolar depression and bipolar depression: a neuroimaging perspective* **Ronny Redlich**	*Effects of centrally administered etanercept on behaviour, histology and Tnfa expression in mice following a peripheral immune challenge* **Marie Lou Camara**	*General practice based public-private clozapine monitoring* **Scott Clark**	*The effects of mindfulness-based cognitive therapy on self-compassion, shame and psychological distress in a clinical sample of anxious and depressed patients: a pilot study* **Rebekah Anton**		*How can parents help curb alcohol use in adolescents?: the role of alcohol-specific rules on adolescent drinking trajectories in an Australian sample* **Zoe Tonks**
1145-1200	*A direct test of the diathesis-stress hypothesis using polygenic risk scores* **Nick Martin**	*Evaluation of the effects of prescribed BD drugs on mitochondrial function in neuron-like cells* **Chiara Bortolasci**				
1200-1245	**Lunch and Poster Viewing** – William Magarey North					

FRIDAY 5 DECEMBER 2014 *continued*

1245-1405	**Plenary Session 6**					
Room	**William Magarey East**					
Chair	A/Prof Felice Jacka					
1245-1305	**Keynote Presentation 18** *Genetics of depression* – **Prof Ma-Li Wong (SAHMRI)**					
1305-1325	**Keynote Presentation 19** *Innovations in youth substance abuse treatment* – **A/Prof Leanne Hides (QLD University of Technology)**					
1325-1345	**Keynote Presentation 20** *Harnessing cognitive lifestyle to better prevent dementia and cognitive impairment in late life* – **A/Prof Michael Valanzuela (University of Sydney)**					
1345-1405	**Keynote Presentation 21** *Distinguishing self from world in schizophrenia and schizotypy* – **Dr Thomas Whitford (University of NSW)**					
1405-1430	**Afternoon Tea and Poster Viewing** – William Magarey North					
	Concurrent Sessions					
1430-1545	**Symposium 8A** ***Untangling paths to illness and health: trajectories in psychosis***	**Symposium 8B** ***The prism of male depression: a multi-faceted examination***	**Free Communication 8C** ***Old age psychiatry***	**Symposium 8D** ***Post-mortem brain tissue in psychiatric research: a focus on gene expression, functional genomics, and clinical biomarkers***	**Free Communication 8E** ***Free communications – Epidemiology***	**Symposium 8F** ***Recovery in schizophrenia – the role of long acting injectable in protecting patient autonomy***
Room	**William Magarey East**	**SANFL**	**Premiership Suite**	**One**	**Leigh Whicker Room**	**SACA**
Chair	Scott Clark	Judy Proudfoot	Catherine Toben	David Stacey	Tracy Air	Bernhard Baune
1430-1445	*Trajectories of brain change in schizophrenia and other psychoses: changes during emergence and relapse of illness* **Christos Pantelis**	*Assessing depression in men: the role of sex differences in longitudinal externalising and internalising depression symptom trajectories* **Simon Rice**	*Expert review of the DSM-5 criteria for diagnosing major depression in older Australian adults* **Heather Buchan**	*The Australian Brain Bank Network (ABBN): a national collaborative approach for the collection, handling, and distribution of post-mortem human brain tissue for neuroscience research* **David Stacey**	*Twenty-two shades of grey – the case for $p<0.05$ as an indicator of effectiveness in clinical trials* **Andrew Mackinnon**	*Evidence based psycho-social and long-acting injectable treatments for schizophrenia* **Timothy Rolfe**

1445-1500	*Modeling trajectories in clinical high risk of psychosis* **Scott Clark**	*Doing what comes naturally: positive strategies used by men to prevent depression and suicide* **Erin Whittle**	*Randomised controlled trial of group cognitive behavioural therapy compared to a discussion group for the treatment of comorbid anxiety and depression in older adults* **Viviana Wuthrich**	*Changes in dopamine pathway molecules and sex steroid receptors in the substantia nigra in schizophrenia* **Tertia Purves-Tyson**	*New item banks to assess mental health* **Phil Batterham**	*Recovery in schizophrenia – the role of long acting injectable in protecting patient autonomy* **Anthony Harris**
1500-1515	*Functional recovery trajectories in FEP* **Mario Alvarez-Jimenez**	*The role of the media in encouraging men to seek help for depression or anxiety* **Kylie King**	*Financial strain and depressive symptoms in older men and women: buffering effects of social resources* **Tim Windsor**	*Brain expressed enhancers are sites of copy number variation in ASD* **Irina Voineagu**	*New item banks to assess mental health: item selection process* **Jacqueline Brewer**	Destigmatising long acting injectable in the eyes of the carers and families **K. Oliver Schubert**
1515-1530	*It's about time: changing physical health trajectories for young people with psychosis* **Philip Ward**	*"I'll deal with it, it's my problem, I'm a man": lessons from men's experiences of depression and suicide* **Michael J. Player**		*From brain banking to clinical biomarkers: fact or fantasy?* **Brian Dean**	*Ethical oversight and participant protection in psychiatric clinical trials* **Melissa Raven**	Abilify Maintena – its place in the current treatment armamentarium **Dennis Liu**
1530-1545		*Too costly to ignore: responding to the economic costs of young men's poor mental health* **Gillian Vogl**				
1545-1615	**The Australian Rotary Health Knowledge Dissemination Oration Award – Rotary** – William Magarey East Dr Lexine Stapinski, Research Fellow, NHMRC Centre for Research Excellence in Mental Health and Substance Use					
1615-1645	**Presentation of Awards and Conference Close** – William Magarey East					

Poster Presentations

	Poster Board Number	Presenting Author	Poster Title	Theme
GROUP 1	1	**Chiara Bortolasci**	Paraoxonase 1 plasmatic activity and functional genotypes contribute significantly to total plasma radical trapping antioxidant potential in mood disorders	Biological underpinnings of mental disorders
	2	**Stephanie Fryar-Williams**	Bridging the gap between content and process: biomarker cross-talk between biochemistry and sensory-process in schizophrenia and schizo-affective disorder	Biological underpinnings of mental disorders
	3	**Manreena Kaur**	Longitudinal associations between mismatch negativity and disability in early schizophrenia- and affective-spectrum disorders	Biological underpinnings of mental disorders
	4	**Robert Maier**	Using pleiotropy to improve genetic risk prediction in psychiatric disorders	Biological underpinnings of mental disorders
	5	**Erica Neill**	Ketamine as a model for schizophrenia deficits	Biological underpinnings of mental disorders
	6	**Joanne Ryan**	The effect of maternal stress and depression on neonatal epigenetic profile	Biological underpinnings of mental disorders
	7	**Ronny Redlich**	Neurostructural effects of electro convulsive therapy in patients with major depression	Mood and anxiety disorders
	8	**Joanne Ryan**	C-reactive protein gene variants: independent association with late-life depression and circulating protein levels	Mood and anxiety disorders
	9	**Bruna Schilling Panizzutti**	In bipolar disorder decreased hippocampus size is correlated with the modifiable factors body mass index and leptin serum levels independently of number of previous mood episodes	Mood and anxiety disorders
	10	**Alice Neale and Rebecca Wood**	The effect of resveratol on cardiometabolic health in patients with severe mental illness: a pilot study	Biological interventions

	Poster Board Number	Presenting Author	Poster Title	Theme
GROUP 2	11	**Tonelle Handley**	Searching suicide	Epidemiology and public health
	12	**Melissa Raven**	Citation content misrepresentation in the psychiatric/mental health literature	Epidemiology and public health
	13	**Ruby Tsang**	Contribution of the *APOE* ε4 and *MTHFR* C677T polymorphisms to the risk of late-life depression: systematic review and meta-analyses	Old age psychiatry
	14	**Dennis Liu**	Evaluation of meta-cognitive group training for psychosis spectrum disorders in an outpatient setting: Australian study	Psychological interventions
	15	**Brendan Loo Gee**	Mobile technologies delivering ecological momentary interventions for stress and anxiety: a systematic review and meta-analysis	Psychological interventions
	16	**Kate Reeve-Parker**	A randomised, active-controlled rater-blinded 2-year study of paliperidone palmitate versus investigators' choice of oral antipsychotic monotherapy in patients with schizophrenia (PROSIPAL)	Psychotic disorders
	17	**Kate Reeve-Parker**	Paliperidone palmitate in acute patients with schizophrenia - treatment response, safety and tolerability: a prospective flexible dose study in patients previously unsuccessfully treated with oral antipsychotics	Psychotic disorders
	18	**Kwok Tung Gordon Wong**	A pilot investigation of motivation, technology literacy and knowledge of schizophrenia among South Australian adults with a diagnosis of schizophrenia	Recovery, regeneration and functional recovery

	Poster Board Number	Presenting Author	Poster Title	Theme
GROUP 3	19	**Kristen McCarter**	A clinical practice change intervention to increase dietitian provision of depression screening and referral for head and neck cancer patients	Research translation
	20	**Courtney Purdie**	Recruitment of medication-naive first episode psychosis patients to research: impact of clinical referral pathway	Research translation
	21	**Miriam Posselt**	The cultural responsiveness of mental health and drug and alcohol support services for resettled refugee youth in northern Adelaide	Service delivery and health outcomes
	22	**Elena Rudnik**	Integrated Mental Health Inpatient Units (IMHIU): reducing the burden of mental health for rural communities	Service delivery and health outcomes
	23	**Susan Wilson and Eunju Cha**	Primary health nurse intervention for consumers of the western community mental health services	Service delivery and health outcomes
	24	**Amelia Gulliver**	Student views on privacy in the development of a university mental health virtual clinic	Treatment innovations
	25	**Heidi Sturk**	E-mental health in practice: enhancing uptake of e-mental health in primary health care	Treatment innovations
	26	**Loren Wilkinson**	An open-label, prospective, non-comparative study to evaluate the efficacy and tolerability of paliperidone palmitate in patients with acute schizophrenia	Treatment innovations
	27	**Loren Wilkinson**	Efficacy of paliperidone palmitate and its impact on hospitalisation in patient with recent-onset schizophrenia switched from oral antipsychotics	Treatment innovations
	28	**Bill Reda**	Pure rush': development of a serious educational game to prevent drug use in adolescents	Substance abuse and misuse

	Poster Board Number	Presenting Author	Poster Title	Theme
GROUP 4	29	**Kathina Ali**	Young people's barriers and attitudes to seeking help for eating disorders	Youth mental health
	30	**Alison Calear**	The Y-Worri Project: an evaluation of an online anxiety prevention program in schools	Youth mental health
	31	**Sylvia Kauer**	A dedicated website (link) to facilitate help-seeking for young people with mental health problems: preliminary results from a pilot RCT	Youth mental health
	32	**Catherine King**	HeadStrong: a classroom-based educational resource for adolescent mental health literacy	Youth mental health
	33	**Ashleigh Lin**	Association between subclinical psychotic experiences and daily functioning is not moderated by coping style: evidence from two independent adolescent samples from the general population	Youth mental health
	34	**Kristen Moeller-Saxone**	The social, emotional and spiritual wellbeing needs and characteristics of young people from Aboriginal and Torres Strait Islander backgrounds living in out of home care	Youth mental health
	35	**Brian ODonoghue**	Social environmental risk factors for transition to psychosis in an ultra-high risk population	Youth mental health
	36	**Rebecca Randall**	Reasons for participating in a high level mental health governance group: qualitative analysis of applications	Youth mental health
	37	**Simon Rice**	Moderated online social therapy for depression relapse prevention in young people: the latitudes pilot study	Youth mental health

Poster Session and Judging

Location: William Margery North and surrounding corridors
Date: Wednesday 3 December 2014
Time: 1715-1815hrs

The official poster judging will take place on Wednesday at 1715hrs. Poster presenters have been divided into small groups and will move from poster to poster briefly presenting and answering questions during this time.

To listen to the presentations please meet at the first poster in your preferred group at 1715hrs.

WEDNESDAY ABSTRACTS

Wednesday, William Magarey East, 0915-1055

From neuroproteomics to biomarkers for schizophrenia

David R Cotter[1]

[1]*Royal College of Surgeons in Ireland, Dublin, Ireland*

"Omic" analyses of schizophrenia brain, patient-derived stem cells and serum provide the opportunity to gain a unique understanding of the pathophysiology and developmental origins of schizophrenia. They also identify potential biomarkers of disease that are likely to facilitate early identification and treatment. In this talk I provide an overview of the work carried out by my group and collaborators on postmortem proteomic studies of the brain in schizophrenia and extend this work to proteomic analysis of the postsynaptic density fraction of the neuron in brain and olfactory neurosphere derived stem cells. I will show that differentially expressed proteins in the brain can be identified in the serum using targeted proteomic methods. I will present recent work demonstrating that inflammatory markers can be identified in the serum of subjects in the at-risk-mental-state using metabolomics methods and multi-analyte profiling. This work implicates protein translation, synaptic plasticity and inflammation in schizophrenia. I will discuss the feasibility of assessing markers of these processes to allow the early identification and treatment of psychosis.

Revisiting "high risk" for psychosis: environmental and genetic risk factors for psychotic illness

Vera A. Morgan[1]

[1] *Neuropsychiatric Epidemiology Research Unit, School of Psychiatry and Clinical Neurosciences, The University of Western Australia, Perth, Australia*

In 1952, Barbara Fish began the formal, prospective study of high-risk children of mothers with schizophrenia. In 1957, she published her first paper ("The detection of schizophrenia in infancy") on abnormal neuromotor development and neurological deviation in these infants, otherwise known as neurointegrative disorder or "pandysmaturation". From these origins, there has evolved half a century of high-risk research into the developmental antecedents of schizophrenia, contributing to the formulation of the neurodevelopmental hypothesis of schizophrenia in the late 1980s which continues to exert a powerful influence on our understanding of schizophrenia's aetiological basis. This talk describes the modern evolution of the original high-risk research paradigm, using record-linkage methodology to understand familial and environmental risk factors for psychosis in a large birth cohort of Western Australian children of mothers with psychotic illness.

Mental-physical comorbidity: key findings from the World Mental Health Surveys

Kate M Scott[1]

[1]*Department of Psychological Medicine, University of Otago, Dunedin, New Zealand*

Background: The co-occurrence of mental disorders and chronic physical conditions (mental-physical comorbidity) occurs in populations worldwide. A portion of prevalent mental-physical comorbidity is attributable to physical ill-health increasing risk of mental disorders through psychological, biological and medication pathways. Recent research, however, has focused on the reverse possibility that mental disorders may increase risk of physical conditions. Prospective studies have established that depression predicts incident heart disease, but the links between other mental disorders and other physical outcomes have been less studied. Using the World Mental Health Surveys dataset we investigated how extensive these mental-physical sequential associations are, and whether risk of physical ill-health is associated with the number of mental disorders experienced over the life course. **Methods:** Face-to-face household surveys were conducted in 19 countries (n=52,095). The Composite International Diagnostic Interview retrospectively assessed lifetime prevalence and age at onset of 16 DSM-IV mental disorders. Chronic physical conditions were assessed by self-report of physician's diagnosis and year of diagnosis or onset. Survival analyses estimated associations between first onset of mental disorders and subsequent physical condition diagnosis/onset. **Results:** In bivariate analyses all mental disorders were associated with the subsequent diagnosis/onset of a wide range of chronic physical conditions, but associations attenuated after adjustment for comorbid mental disorders, smoking, education, and childhood adversities. Nonetheless, most major categories of mental disorders remained associated with the onset of the vast majority of chronic physical conditions. The more mental disorders experienced, the stronger the associated risk of chronic condition onset. Earlier onset (versus later onset) mental disorders were more strongly associated with chronic conditions. **Conclusion:** Reducing the prevalence of mental-physical comorbidity in mid and later life will require the detection and treatment of mental disorders earlier in life, with attention not only to mental disorder symptoms but also to health behaviours and chronic disease biomarkers.

Gamma synchrony - a plausible pathophysiology in psychosis

Anthony Harris[1,2]

[1]*Discipline of Psychiatry, Sydney Medical School, University of Sydney, Sydney, Australia*
[2]*Brain Dynamics Centre, Westmead Millennium Institute for Medical Research, Westmead, Australia*

Synchronisation of brain activity in the gamma band is a plausible mechanism for the fundamental processes of cortical communication and computation at the local level. In turn, changes in gamma synchrony have been hypothesized to be central to the pathophysiology of psychotic disorders such as schizophrenia, a disease that has been conceptualized as a breakdown in functional connectivity. This presentation will review evidence for electrophysiological synchronisation being the basic mechanism for moment-to-moment coordination of mental effort in the brain and extend this into recent findings in psychotic disorders. It will also review how gamma activity interacts with other frequency bands to coordinate mental activity and link to psychopathology.

Childhood physical abuse and neglect predict pituitary gland volume in first episode psychosis patients

Christina Phassouliotis[1&2], Shalinda Kekulawala[2], Belinda A Garner[1&3], Lisa J Phillips[4], Sarah Bendall[1], Connie Markulev[1], Patrick D McGorry[1], Christos Pantelis[2]

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Background: The onset of psychosis is associated with Hypothalamic-Pituitary-Adrenal (HPA) axis dysfunction, marked by elevated diurnal cortisol and enlarged pituitary gland volume (PGV). It is unclear whether HPA dysfunction is a biological correlate of stress experienced during the onset of psychosis or whether it is a neurobiological consequence of early trauma. This study investigates the relationship between neuroendocrine (morning cortisol) and brain structural (PGV) parameters of HPA function in first episode psychosis (FEP) patients and healthy controls, in association with current perceived stress and childhood trauma. We hypothesized that: i) FEP patients would display elevated cortisol and enlarged PGV; ii) HPA dysfunction would be associated with greater severity of perceived stress and/or childhood trauma. **Methods:** Twenty-six neuroleptic-naive or minimally treated (≤10 days psychotropic medication) FEP patients (73% male) were recruited from the Early Psychosis Prevention and Intervention Centre at Orygen Youth Health. Twenty-seven healthy controls (70% male) were recruited from the local community. All participants completed a blood test for analysis of serum cortisol (9am), an MRI scan for measurement of PGV, the Childhood Trauma Questionnaire and the Perceived Stress Scale. **Results:** There were no significant differences in cortisol and PGV between FEP patients and controls, including gender subgroups ($p \geq 0.08$). FEP patients reported significantly greater childhood trauma and perceived stress than controls ($p \leq 0.01$). In the overall group, there was a significant correlation between PGV with childhood physical abuse and perceived stress ($r \geq 0.29; p \leq 0.04$). Childhood physical abuse and neglect were significant predictors of PGV among FEP patients ($p \leq 0.01$). Current perceived stress was a significant predictor of PGV among controls ($p = 0.05$). **Conclusion:** These findings suggest that abnormalities in PGV at the onset of psychosis may occur as a long-term neurobiological consequence of childhood physical trauma. These structural impairments may ultimately lead to pituitary-adrenal dysfunction and related psychopathology which may impact on illness course.

Diet quality is associated with hippocampal volume in humans

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Background: Recent meta-analyses confirm a relationship between diet quality and both depression and cognitive health in adults. While the biological pathways that underpin these relationships are likely multitudinous, extensive evidence from animal studies points to the involvement of the hippocampus. The aim of this study was to document, for the first time, associations between dietary patterns and hippocampal volume in humans. **Methods:** Data were drawn from the Personality and Total Health (PATH) Through Life Study and focused on a subsample of the cohort (n=255) who were aged 60-64yrs at baseline in 2001, completed a comprehensive food frequency questionnaire, and underwent an MRI at waves one and two, approximately four years apart. Longitudinal random-intercept linear regression models were used to assess the association between dietary factors and left and right hippocampal volume over time. **Results:** Every one standard deviation (SD) increase in healthy 'prudent' dietary pattern was associated with a 45.7mm^3 (se 22.9) larger left hippocampal volume, while higher consumption of an unhealthy 'western' dietary pattern was (independently) associated with a 52.6mm^3 (se 26.6) smaller left hippocampal volume. These relationships were independent of age, gender, education, labor-force status, depressive symptoms and medication, physical activity, smoking, hypertension, diabetes, and intracranial volume/change over time. No relationships were observed between dietary patterns and right hippocampal volume. The apparent protective effects of a healthy diet (ie. one SD greater consumption of healthy and one SD lower consumption of unhealthy diet together) represented approximately one third of the average decline in left hippocampal volume observed over the four-year period. **Conclusion:** Lower intakes of nutrient-dense foods and higher intakes of unhealthy foods are each independently associated with smaller left hippocampal volume. To our knowledge, this is the first human study to demonstrate associations between diet and hippocampal volume concordant with those previously observed in animal models.

Behavioural and fMRI evidence of semantic categorisation deficits in schizophrenia

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Background: Abnormalities in semantic processing are proposed to be central to cognitive abnormalities and thought disturbances in schizophrenia (SZ). We completed two studies: study 1 investigated behavioural categorisation ability and study 2 examined the underlying neural substrates involved during categorisation. Our aim was to confirm behavioural categorisation deficits in SZ; illustrate the underlying neural correlates of these difficulties and further to extend this investigation into patients with bipolar disorder (Type 1) (BD). **Methods:** A categorisation task was used that consisted of eighteen categories and five different exemplar words per category (i.e. high frequency, low frequency, borderline, related but outside category and unrelated). Participants were asked to indicate whether exemplars were or were not part of the category. Study 1 included 32 SZ, 28 BD and 32 healthy controls and examined behavioural performance. Study 2 included 10 SZ, 10 BD and 16 healthy controls; performing the task during fMRI completed in a 1.5T MRI. **Results:** SZ and BD had reduced accuracy and increased reaction times, there were no group differences. Categorisation ability in the healthy controls was related to activity in the left and right inferior frontal (BA44/45), left and right middle temporal gyrus (BA21/22), left hippocampus, left precuneus, anterior cingulate and cerebellum; areas typically reported during semantic processing. The interaction between task and group illustrated the patients exhibited hypo-activation within left frontal cortices, the left hippocampus and to a lesser extent posterior temporal cortex. **Conclusion:** Both patient groups showed difficulty with categorising semantic information. The fMRI data revealed impairments in the distributed frontal-temporal network during this task. This network is known to be engaged in the representation and processing of meaning of words, text, and discourse. Significantly, these deficits crossed diagnostic boundaries. We predict that we have started to outline the mechanisms involved in thought and communication disturbance in psychosis.

Neural suppression of self-produced auditory but not visual sensations: relevance to psychotic symptoms

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Background: Sensory suppression describes attenuated neural response to sensations which are produced by our own movements compared to those resulting from the external environment. Direct measures of sensory suppression are realized using event-related potential (ERP) paradigms. Healthy participants have been shown to exhibit a reduced auditory N1 component when the auditory stimuli are self- versus externally-produced. However, this electrophysiological sensory suppression has not been observed in schizophrenia patients, reflecting a deficit which has been argued to account for the most characteristic psychotic symptoms of the disorder. Literature investigating the visual modality is sparse, with mixed findings and stimuli conditions. A comparative electrophysiological study was conducted to extend our cross-modal understanding of sensory suppression in healthy participants. **Methods:** 42 healthy first-year students from the UNSW School of Psychology participated in the experiment. While EEG was continuously acquired, participants experienced an auditory (tone) or visual (pattern-reversal) stimulus following either their own button-press (self-produced), a random interval (externally produced) or a countdown (to match intrinsic predictability of self-produced stimuli). In addition, a button-press condition without stimulus onset acted as a motor control. **Results:** Reduced N1 amplitudes for self-produced tones compared to identical tones presented without subject input indicated electrophysiological sensory suppression in the auditory domain. In a converse pattern, the visual N2 component was larger for self-produced pattern-reversals compared to those presented without subject input. Externally produced conditions did not differ as a function of their predictability. **Conclusions:** Suppression of self-produced neural response occurred when subjects were presented with auditory but not visual stimuli. This may present implications for understanding symptoms in clinical populations that exhibit abnormal suppression, such as schizophrenia, in which auditory hallucinations are far more common than visual hallucinations.

Role of N-acetyl aspartate and glutamate in memory impairment, symptom severity and age of onset in older people with remitted or mild depression

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Background: Glutamate (Glu) and N-Acetyl Aaspartate (NAA) are markers of excitatory processes and neuronal compromise respectively, and can be measured in-vivo using proton magnetic resonance spectroscopy (^{1}H-MRS). Increased Glu and decreased NAA concentrations have been implicated in the pathophysiology of depression and have been associated with increased symptom severity and cognitive impairment. However, the relationship between these metabolites and late life depression (LLD) is unclear, particularly when LLD is remitted or only mild. **Methods:** Thirty-five health-seeking older adults with remitted or mild LLD and twenty-one age matched healthy control subjects underwent neuropsychological testing and psychiatric assessment at the Healthy Brain Ageing Clinic, University of Sydney. Participants also underwent left hippocampal ^{1}H-MRS where Glu and NAA were measured and reported as a ratio to creatine (Cr). **Results:** Compared to control subjects, LLD patients showed poorer verbal learning ($t=2.27$, $p=0.028$). NAA/Cr and Glu/Cr did not differ significantly between groups ($p>0.05$), however in control subjects, higher levels of hippocampal Glu/Cr were associated with better memory retention ($r=0.55$, $p=0.018$), and in the LLD patient group, higher levels of hippocampal NAA/Cr were related to better verbal learning ($r=0.44$, $p=0.008$) and memory retention ($r=0.41$, $p=0.018$). No significant association was found between Glu/Cr levels and verbal learning or memory retention in the LLD group ($p>0.05$), however higher levels of hippocampal Glu/Cr were associated with greater depression severity ($r=0.35$, $p=0.039$), and a younger age of depression onset ($r=-0.37$, $p=0.031$). **Conclusion:** In the LLD patients, spectroscopic markers of neuronal compromise (NAA) were associated with poorer memory performance. In contrast, markers of excitatory processes (Glu) were associated with greater depression severity and age of depression onset. Our findings highlight that hippocampal neurometabolites are entwined with both symptom severity and cognitive aspects of LLD and may be useful in both identifying disease onset and tracking disease progression.

Striatal shape differences are associated with plasma glucose levels: the 2sweet project

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Background: Recent research has shown that even within the normal range (<6.1 mmol/l) higher blood glucose levels in individuals free of T2D were associated with greater shrinkage in the hippocampus. Whether the striatum, another subcortical structure which plays a major role in motor control, cognition and emotional regulation is also affected by plasma glucose levels in ageing is unclear and the focus of this study. A specific aim of this investigation is not only to identify global differences in volumes but also localised shape difference which may provide more specific information about the function likely to be affected. **Methods:** 289 cognitively healthy individuals (mean age 63 years) with or without T2D and taking part in the Personality and Total Health Through Life (PATH) study were assessed. Fasting plasma glucose was tested at wave 1. Striatal and hippocampal regional structural changes were examined on 1.5T MRI scans collected at wave 3, 8 years later, with FSL-FIRST. General linear model analyses were applied to assess the relationship between plasma glucose and localised differences in the shape and volume of the striatum and hippocampus after controlling for a range of sociodemographic and health variables. **Results:** In most analyses high plasma glucose levels were associated with changes in shape of the striatum and hippocampus. The changes corresponded to lower striatal and hippocampal regional volumes both in diabetics and non-diabetics after controlling for age, sex, BMI, hypertension, smoking and depression symptomatology. Regional striatal volumes were on average also smaller in those with diabetes compared to participants free of T2D. **Conclusion:** Higher plasma glucose levels in diabetics and in non-diabetic individuals (within the normal range) were associated with significant structural differences in the striatum. These findings further stress the importance of early monitoring and management of plasma glucose levels as a risk factor for cerebral health.

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Cross-modal integration of emotion in bipolar disorder

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Background: The ability to integrate information from different sensory channels is a vital process that serves to facilitate perceptual decoding in times of unimodal ambiguity. Despite its relevance to psychosocial functioning, multimodal integration of emotional information across facial and prosodic modes has not been addressed in bipolar disorder (BD). In light of this paucity of research we investigated multimodal processing in a BD cohort using a focussed attention paradigm. **Methods:** 50 BD patients and 52 healthy controls completed a task assessing the cross-modal influence of emotional prosody on facial emotion recognition across congruent and incongruent facial and prosodic conditions, where attention was directed to the facial channel. **Results:** There were no differences in multi-modal integration between groups at the level of accuracy, but differences were evident at the level of response time; emotional prosody biased facial recognition latencies in the control group only, where a fourfold increase in response times was evident between congruent and incongruent conditions relative to patients. **Conclusions:** The results of this study indicate that the automatic process of integrating multimodal information from facial and prosodic sensory channels is delayed in BD. Given that interpersonal communication usually occurs in real time, these results have implications for social functioning in the disorder.

Social cognition in neurocognitive deficit subtypes of schizophrenia and bipolar disorder

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Background: Schizophrenia (SZ) and bipolar-I disorder (BD) are associated with common neurocognitive impairments that are reported with greater severity in SZ. These cognitive deficits may partially underpin social cognitive deficits demonstrated in SZ. However, strong and consistent evidence for social cognitive deficits (as seen in SZ) is lacking in BD, and it is possible that only those patients with more severe neurocognitive deficits show signficant impairment in emotion recognition and Theory of Mind (ToM) capacities. **Aims:** We investigated whether cross-disorder subtypes of SZ, schizoaffective (SzA) and BD patients with more severe neurocognitive deficits showed differential social cognitive abilities to those without severe cognitive impairment. **Methods:** Participants were 135 clinical cases with an established diagnosis of SZ (n=44), SzA (n=23) and BD (n=68), and 66 healthy controls (HC). A two-step cluster analysis identified two homogeneous subgroups of clinical cases based on performance across eight major neurocognitive domains: a group with severe cognitive deficit ('cognitive deficit' group; CD, N=62; SZ n=24; SzA n=11; BD n=27) and a group with relatively spared cognition ('cognitively spared' group; CS N=73; SZ n=20, SzA n=12, BD n=41). A sub-set of participants also completed the Ekman 60-faces test of facial emotion recognition and The Awareness of Social Inference Test (TASIT). **Results:** The CD group demonstrated impairments in both emotion recognition and ToM, relative to CS and HC groups. There were no differences on social cognition tasks among the CS and HC groups. **Conclusions:** Patients with more severe neurocognitive deficits displayed extensive social cognitive impairments compared to those without cognitive impairment. These findings suggest that general neurocognitive impairments account for substantial impairments in social cognition, and demonstrate the utility of examining psychotic disorder patients according to subgroups defined by neurocognitive impairment, as a potential marker of a subtype of psychosis that spans current diagnostic categories.

The relationship between neurocognitive performance and general function in major depressive disorder

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Background: The objective of this study was to review the literature on neurocognitive performance and general function in Major Depressive Disorder (MDD). MDD is a common psychiatric illness which negatively affects cognition and general function in both the acute state of illness and in remission (Baune et al., 2010). Individuals with a history of MDD experience impairment in a range of cognitive domains including memory, attention and executive function; and difficulty with general functioning including occupational, social and physical functioning and reduced quality of life (QOL). Cognitive function at baseline has also been shown to predict future function in those with a history of MDD (Jaeger et al., 2006). **Method:** This paper reviewed whether there were cross-sectional or longitudinal associations between neurocognitive impairment and impairment in general function (social, occupational, life and physical functioning; and QOL) in participants with a history of MDD. **Results:** This review identified nine papers which investigated cognition and general function in individuals with a history of MDD. In cross-sectional studies, significant associations were found for planning, working memory, memory retention, psychomotor speed and verbal recall for physical and overall general function and QOL in MDD patients. In remitted MDD participants, visuospatial ability, delayed memory, language and delayed verbal recall were associated with occupational functioning and QOL. In longitudinal studies, working memory, verbal memory retention, visual memory, attentional switching, non-verbal measures, learning measures and motor measures were associated with life, social and occupational functioning in MDD patients at follow-up. Event-based prospective memory and executive function were associated with social and occupational functioning in remitted MDD participants at follow-up. **Conclusion:** This review provides a starting point for better understanding the relationship between cognition, general function and MDD during illness and after. Future work may be aimed at designing more effective cognitive treatments that improve functioning during and after depressive episodes.

Social cognition in depressed subjects: the role of symptom severity

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Background: Social cognition has been defined as the "the mental operations that underlie social interactions, including perceiving, interpreting, and generating responses to the intentions, dispositions, and behaviors of others." [Green et al, 2008]. Recent research has found individuals with major depressive disorder (MDD) demonstrate deficits in multiple social cognitive domains, however the association with symptom severity is far from conclusive. The aim of the current research was to investigate the relationship between depressive symptom severity and social cognition. **Methods:** Both participants with MDD (n=98) and healthy controls (n=55) were assessed using the Wechsler Advanced Clinical Solutions: Social Perception Subtest. The Wechsler ACS is a normed integrated test, measuring various aspects of social cognition including affect recognition in isolation and in combination with prosody and body language interpretation. **Results:** Data revealed that there were no differences in any of the social cognition measures for individuals with and without a lifetime history of MDD. Performance on the social cognition tasks also did not differ in a comparison between healthy controls, acute depression cases and remitted depression cases. Although diagnostic groups were not related to measures of social cognition, we observed that self reported (CES-D and PANAS) and interviewer-rated severity (HAM-D) predicted performance on the prosody assessment (CES-D, $p=0.03$), prosody pairs assessment (PANAS, $p=0.02$; HAM-D, $p=0.003$), and total Social Perception Score (CES-D, $p=0.03$) in the overall depression group. **Conclusion:** Our preliminary study provides evidence of impaired social cognitive abilities in a sample of individuals with MDD, and warrants further investigations in this population. It appears that individuals with more severe symptomatology struggle with increasingly complex social cognitive tasks that reflect daily interactions regardless of the current status of depression. This may have important implications for general functioning.

Executive dysfunction in Psychosis Following Traumatic Brain Injury (PFTBI)

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Background: Executive dysfunction is well established in patients with traumatic brain injury, and in schizophrenia. However, assessments of executive function in psychosis following traumatic brain injury (PFTBI) are limited, inconsistent, and often do not reflect the patterns of deficits demonstrated in traumatic brain injury (TBI) and schizophrenia. **Methods:** A battery assessing executive function was administered to dually diagnosed PFTBI patients that measured mental inhibition and switching, processing speed, and attention. The battery comprised of the Stroop Task, the Trail Making Test, and the Attention subtest of the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS). Performance was compared with three other cohorts: patients with traumatic brain injury, schizophrenia, and healthy controls. **Results:** Significant executive dysfunction was shown by patients with PFTBI on all measures. PFTBI patients further demonstrated the poorest performance relative to all three comparison cohorts. **Conclusions:** These data present novel evidence of substantially impaired executive function across four task types in dually diagnosed PFTBI patients, both relative to health, and the impairments of their brain-injured, and psychotic, counterparts. The data suggest that TBI and presence of psychosis have an additive influence on executive function deficits.

Is the clinical profile of Psychosis Following Traumatic Brain Injury (PFTBI) diagnostically distinct from schizophrenia/schizoaffective disorder?

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Background: Persons who suffer with symptoms of psychosis following a brain injury live with a complex dual diagnosis that is often accompanied by substantial distress and disability due to their psychotic symptoms. However, a comprehensive examination of the clinical presentation of PFTBI using standardised clinical measures has not been reported in the literature. This information is vital for the accurate diagnosis and efficacious treatment of these patients. **Methods:** Patients with PFTBI (n =10) and schizophrenia (n =23) participated in a comprehensive clinical assessment that included the Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-I/P), the Positive and Negative Syndrome Scale (PANSS), the Scale for the Assessment of Positive Symptoms (SAPS), and the Thought Language and Communication Index (TLC). **Results:** PFTBI participants met the symptom and course criteria for schizophrenia (n = 6), schizoaffective disorder (n = 2), schizophreniform disorder (n = 1), and paranoid psychosis (n = 1). No significant differences between schizophrenia and PFTBI clinical profiles were found, with the exception of i) the PANSS negative total score, and ii) SAPS lifetime grandiose delusions. On both of these indices Schizophrenia patients scored significantly higher than the PFTBI cohort. **Conclusion:** The clinical profile of PFTBI appears to be comparable to schizophrenia/ schizoaffective disorder, perhaps with the exception of negative symptoms and lifetime (but not current) grandiose delusions. Reduced negative symptoms in PFTBI have previously been reported in a small number of case studies, and thus warrant further investigation in this patient cohort.

Genome-wide association study for schizophrenia in Tamil Nadu Indians shows polygenic overlap with Europeans

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Background: Most schizophrenia genome-wide association studies (GWAS) have utilised European ancestry samples. Common alleles explain 30-50% of genetic risk, and polygenic variation overlaps between ethnically-diverse populations. We report the first GWAS of schizophrenia in an Indian population. **Methods:** The GWAS included 657 individuals (289 affected), comprising 166 trios and 38 affected sibling-pair-families with a proband with DSM-IV schizophrenia. Most families were Tamil Brahmin caste from Chennai. Standard ascertainment procedures (i.e. consensus diagnoses) were applied. We included 94 additional cases and 105 controls from a case-control cohort (using identical methods) in the prediction analysis. Genotyping used Illumina 370K (N=657) OmniExpress (N=199) arrays. After performing standard QC procedures, we imputed the remaining SNPs (311,854 and 537,119 SNPs in the family and case-control data sets, respectively) to 1000 Genomes. The final dataset included 5,534,492 SNPs and 856 individuals. **Results:** No SNP surpassed genome-wide significance of P<5e-8. The top SNP (rs260537, p=8.51e-8) was located on chromosome 15q13.1, ~10kb from the tight junction protein 1 (TJP1) gene. Multiple SNPs with genome-wide significant support in Europeans in the MHC region (6p21.32, rs114882497) and chromosome 10q24.33 (rs112913898) replicated (p<0.05) in our Indian sample, and were genome-wide significant in a fixed-effects meta-analysis (rs114882497, p=3.84e-11; rs112913898, p=2.14e-10). Additionally, genetic profile scores from European schizophrenia GWAS predicted schizophrenia status in India (maximum Nagelkerke's R2=0.18, p=5.63e-12, at association p-value cut-off 0.5), although sensitivity and specificity were low. Results of gene-set analyses will also be presented. **Conclusion:** Our Indian GWAS replicates two specific schizophrenia risk loci identified in Europeans, and provides evidence for genome-wide sharing of common genetic variation for schizophrenia between Europe and India. The most strongly associated SNP did not reach genome-wide significance (expected given sample size). Notably, however, it is located near a known schizophrenia CNV locus. Larger Indian samples are required to replicate these suggestive associations.

Proteome and pathway effects of chronic haloperidol treatment in mouse hippocampus

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Background: A major challenge for postmortem brain research and biomarker discovery in psychiatric disorders is the fact that psychotropic medications such as antipsychotics are notorious for interacting with a wide number of molecular targets and downstream signaling pathways, and may have neurodegenerative effects independent of the psychiatric disorder they are intended to treat. Proteomic exploration of the effects of psychotropic drugs on specific brain areas in rodents has the potential to uncover novel molecular networks and pathways affected by medications, and may inform etiologic hypotheses on mental disorders, aiding drug discovery and improved side effect management. **Methods:** Seven male C57BL/6 mice, at 10 weeks of age, were injected daily intraperitoneally with 0.5 mg/kg of haloperidol, for 28 days. A control group of six animals was injected with vehicle only (saline). Animals were sacrificed, and protein levels of hippocampus homogenate were determined using a label-free liquid chromatography/tandem mass spectrometry (LC/MS/MS). Pathway analysis of proteins identified as differentially expressed in haloperidol-treated mice was undertaken using Ingenuity Pathway Analysis (IPA). **Results:** In total, 1068 distinct proteins of the mouse hippocampus were identified using LC/MS/MS technology. Statistical testing of mean differences of Label-Free-Quantification (LFQ)-intensities in haloperidol-treated mice versus controls, identified 216 proteins with p-values <0.05. IPA analysis of results implicated oxidative phosphorylation, mitochondrial function, and epithelial adherens junction signaling as top canonical pathways. Identified proteins are overrepresented in networks involved in tubulin-mediated cytoskeleton dynamics, clathrin-mediated endocytosis, and extracellular signal-regulated kinase (ERK) - and c-Jun N-terminal kinase (JNK) signaling. **Conclusion:** The findings of this study have the potential to stimulate further research into protein networks, biological pathways, and cellular mechanisms associated with haloperidol treatment. Findings may generate testable hypothesis for the exploration of predictive biomarkers for haloperidol treatment response and side effects.

Outcomes of non-transitioned cases in a sample at ultra-high risk for psychosis

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Background: Two thirds of individuals identified as ultra-high risk for psychosis do not develop psychotic disorder over the medium-term. This paper examines their outcome, including persistent attenuated psychotic symptoms, and incident and persistent non-psychotic disorders. **Method:** Participants were help-seeking individuals identified as being at ultra-high risk for psychosis between two and 14 years previously (median=5.7). The current sample consists of 226 participants (125 females; 101 males) who completed follow-up assessment and had not developed psychosis. Mean age at follow-up was 25.5 years (*SD*=4.8). **Results**: Significant psychopathology was found; 28% reported attenuated psychotic symptoms at follow-up; 68% of participants experienced non-psychotic disorder over the follow-up period; 48% experienced mood disorder, 34% anxiety disorder and 29% a substance use disorder. For a majority, non-psychotic disorder was present at baseline (90%), and was persistent for 57% of them. Over the follow-up period, 26% of the cohort remitted from a disorder, but 37% developed a new disorder. Only 7% did not experience any disorder over follow up. The incidence of non-psychotic disorder was associated with higher negative symptoms at baseline. Females experienced higher rates of persistent/recurrent disorder. Meeting the brief limited intermittent psychotic symptoms group at intake was associated with lower risk for persistent/recurrent disorder. **Conclusions:** Non-transitioned ultra-high risk cases are at significant risk for continued attenuated psychotic symptoms, and persistent/recurrent and incident disorders. The ultra-high risk phenotype, while relatively specific to incident psychosis, also captures patients with a range of emerging or chronic psychopathology. Findings have implications for on-going clinical care.

Contrasting the expression of psychotic disorders in ethnically different populations: identifying deficit schizophrenia in transethnic samples

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Background: Contention exists regarding schizophrenia's optimal structure: (1) a single (continuous) entity, or (2) two or more distinct entities, grouped under the label 'schizophrenia'. Few transethnic psychiatric studies have incorporated current diagnostic knowledge to explore the expression of demographic, clinical, and symptom variables and inform debate regarding schizophrenia's classification. We aimed to contrast 'schizophrenia' in three ethnically-different populations, identify significant site differences, and identify the deficit schizophrenia (DS) subtype within each population. **Methods:** We analyzed demographic, clinical and symptom variables, and contrasted frequencies of core schizophrenia diagnostic criteria in ethnically-distinct schizophrenia/schizoaffective samples from Australia (n=821), India (n=520) and the Iban of Sarawak (n=298). Statistical methods used included χ^2, T-Tests, General Linear Models and Logistic Regression. We used Factor Analysis, Latent Class Analysis, and Factor Mixture Modeling to identify DS in the Australian sample, and will test this finding in India and Sarawak. **Results:** We identified: (1) significant demographic/clinical differences between sites, most notably that age at psychosis onset was significantly older in Sarawak; (2) a distinct symptom profile in Sarawak consistent with previous observations – low frequency of thought broadcast/insertion/withdrawal delusions, high frequency of auditory hallucinations and disorganized behaviour, with a comparatively short prodrome; (3) DSM-IV 'criterion A' symptom composition and symptom content differences between sites, including an Indian subgroup (n=20) with schizophrenia who reported no lifetime delusions/hallucinations; and (4) a category strongly resembling DS in Australia (although best model fit was interpretable). Confirmatory analyses in India and Sarawak will test the universality of this finding. **Conclusion:** Evidence either for or against the universality of DS across ethnically-distinct populations makes a significant contribution to discourse on the structure and diagnostic classification of 'schizophrenia', particularly viewed with evidence from genetic analyses. This study highlights potential for comparing/contrasting transethnic schizophrenia samples to validate genetic study evidence, and better understand clinical heterogeneity.

Emotion recognition in unaffected first-degree relatives of individuals with first-episode schizophrenia: a potential endophenotype?

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Background: Impairments in recognising negative emotions are found in individuals with first-episode and chronic schizophrenia and also in those at ultra-high risk for the illness. Whether these impairments reflect a specific endophenotype for schizophrenia is unclear. The aim of this study was to examine whether facial and prosody emotion recognition deficits, particularly for negative emotions, are present in unaffected first-degree relatives of people with schizophrenia. **Methods:** Face and prosody emotion recognition (ER) were examined in individuals with first-episode schizophrenia ($n=30$), their unaffected first-degree relatives ($n=27$) and healthy controls ($n=30$). Measures of psychopathology and IQ were also administered. **Results:** On the face ER task, first-episode schizophrenia participants performed significantly more poorly in recognising anger ($p=.017$), disgust ($p=.033$) and fear ($p=.040$) and first-degree relatives were significantly poorer at recognising fear ($p=.003$) than healthy controls. On the prosody ER task, first-episode schizophrenia participants made significantly more errors in recognising anger ($p=.001$) and surprise ($p=.003$) and first-degree relatives were significantly poorer at recognising anger ($p=.005$) than healthy controls. Effect sizes were medium to large. After controlling for age, IQ and symptoms, both unaffected first-degree relatives and first-episode schizophrenia patients displayed a significant deficit in facial fear recognition relative to healthy controls ($p=.040$ and $p=.048$, respectively). This deficit was not associated with psychiatric symptoms. **Conclusions:** These findings bolster evidence for fear emotion recognition as a trait characteristic of schizophrenia. However, given that ER deficits are observed in other psychiatric disorders, the diagnostic specificity of this finding requires further investigation.

Estimating the joint effect of familial risk for diabetes and antipsychotic drug treatment on risk for diabetes in a national cohort of adults with psychosis

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Background: A positive family history of diabetes is a risk factor for type 2 diabetes. The impact of antipsychotic drug treatment, over and above the impact of familial risk and adjusting for age, has not previously been characterized. Is familial risk for diabetes and antipsychotic drug related risk for diabetes independent? **Methods:** Data were analysed from 1,155 adults with an ICD-10 psychotic disorder from the Australian National Survey of Psychosis who were screened for a self-rated family history of diabetes and current diabetes mellitus based on a fasting blood glucose reading of 7+ mmol/L or current drug treatment for hyperglycaemia. Current antipsychotic drug treatment was recorded for the previous month. Individual logistic regression models compared those receiving no antipsychotic drugs to the most commonly prescribed antipsychotic drugs. Terms for age, family history, medication and their interactions were evaluated. **Results:** As expected, risk of current diabetes was associated with increasing age, positive family history of diabetes and current antipsychotic drug treatment. Only the interaction of family history with antipsychotic drug treatment was an additional significant predictor of risk across a number of commonly prescribed antipsychotic drugs. This interaction acted to increase the relatively lower risk in those with no family history of diabetes while having relatively little impact on the already higher risk in those with a positive family history of diabetes. **Conclusions:** Precipitating factors for diabetes mellitus in the general population also play a central role in those with psychosis but antipsychotic drug treatment may elevate risk in those not otherwise predisposed to diabetes. Familial risk for diabetes and antipsychotic drug related risk for diabetes are not independent.

Subnormal sensory attenuation in schizotypy: electrophysiological evidence for a 'continuum of psychosis'

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Background: The 'continuum of psychosis' refers to the concept that psychotic-like experiences occur to certain extents in the healthy population and to a more severe extent in individuals with psychotic disorders. If the continuum of psychosis is valid, neurophysiological abnormalities exhibited by patients with schizophrenia should be present to attenuated degrees in non-clinical individuals who score highly on the personality dimension of schizotypy. N1-suppression abnormalities to self-generated speech have been consistently observed in patients with schizophrenia. **Methods:** This study used electroencephalography (EEG) to investigate whether N1-suppression abnormalities are also present in non-clinical individuals who score highly on schizotypy. Thirty-seven non-clinical individuals scoring high and 37 individuals scoring low on the Schizotypal Personality Questionnaire (SPQ), which is a commonly used scale to measure schizotypy, underwent EEG recording. The amplitude of the N1 component in each auditory-event related potential was measured while participants (a) vocalized simple syllables (Talk condition), (b) passively listened to a recording of these vocalizations (Listen condition) and (c) listened to a recording of these vocalizations where each vocalization was preceded by a visual cue (Cued condition). **Results:** While the Low Schizotypy group exhibited N1-suppression during the Talk condition relative to both the Listen and Cued conditions and during the Cued condition relative to the Listen condition, the High Schizotypy group failed to exhibit N1-suppression in the Talk condition, relative to either the Listen or Cued conditions. Participants' scores on the SPQ were significantly negatively correlated with their level of N1-suppression, such that participants with the highest level of schizotypy exhibited the lowest level of N1-suppression. **Conclusion:** These findings suggest that non-clinical, highly schizotypal individuals exhibit subnormal levels of N1-suppression to self-generated speech, similar to N1-suppression abnormalities observed in patients with schizophrenia. These results provide preliminary empirical support for the concept of a 'continuum of psychosis'.

The different stages of psychosis among adolescent detainees in New South Wales (NSW), Australia

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Background: The over-representation of psychotic illnesses among prisoners is well-known suggesting an association between psychosis and risk of criminal offending. However, it remains unclear if this association manifests differently along the psychosis continuum and the extent to which course of illness could help explain the relationship between psychosis & criminality. Using a clinical staging perspective (McGorry, Hickie, Yung, Pantelis, & Jackson, 2006), the 'Stages of Psychosis' (SOP) study is an ongoing initiative seeking to understand the prevalence and nature of the different stages of psychosis [at-risk mental states (ARMS), first episode of psychosis (FEP), and established psychosis] within the custodial population of New South Wales (NSW), Australia. **Method:** Participants consist of adolescent detainees sampled from those who have been referred to in-reach mental health services for possible or established psychosis. Semi-structured interviews using clinical instruments such as the Comprehensive Assessment of At-risk Mental States (CAARMS), Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), and Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) are conducted and criminal justice and mental health records are examined to understand the possible sociodemographic, clinical and offending-related factors that might be operating across the illness continuum. **Results:** Data collection for the study is ongoing. Initial progress with the recruitment of adolescents from two of NSW largest juvenile detention centers will be presented. **Conclusion:** Adolescent detainees in NSW present with symptoms reflecting the different stages of psychosis. This suggests the need for early intervention services that target young people in custody.

Key reference: McGorry, P. D., Hickie, I. B., Yung, A. R., Pantelis, C., & Jackson, H. J. (2006). Clinical staging of psychiatric disorders: a heuristic framework for choosing earlier, safer, and more effective interventions. *Australian and New Zealand Journal of Psychiatry, 40,* 616-622.

Schizotypy and cognitive functioning in everyday life: an experience sampling study

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Background: Schizotypy is a personality structure characterised by attenuated forms of psychotic symptoms, such as unusual perceptions, speech, and affect. Such individuals are thought to be prone to psychosis, with cognitive deficits a core marker of this vulnerability. No consistent patterns of objective deficits have been identified in high schizotypes; they do however complain of more cognitive failures in everyday life. This study aims to examine cognitive failures as they occur in the flow of everyday life and hypothesises that high schizotypes will report more of these experiences. **Methods:** Schizotypy, vulnerability to cognitive failures, and objective working memory performance of 60 healthy individuals were measured at baseline. In a typical experience sampling (ES) paradigm, a watch prompted participants to report current activities and cognitive failures in a structured diary in the flow of their everyday lives. **Results:** High schizotypes did not exhibit objective deficits, but did report more cognitive failures cross-sectionally. High and low schizotypes did not differ significantly in cognitive failures reported over the week. Low schizotypes reported relatively consistent levels of cognitive failures throughout the day. However, high schizotypes were more variable over the day, reporting significantly less cognitive failures in the evening than they did in the morning. **Conclusion:** Subjective cognitive complaints in day-to-day life may be a cognitive marker of psychosis-proneness that is detectable prior to objective impairment. High schizotypes report greater variability in cognitive failures over the course of each day, suggesting that personality and time of day jointly influence patterns of cognitive functioning in daily life. The use of the ES approach provides a more ecologically valid assessment of cognition, and can be utilised to explore features of the everyday cognitive experience of individuals at-risk for psychosis.

Wednesday, Leigh Whicker Room, 1115-1245

Psychoneuroimmunology: a wider perspective on mental health

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Background: Psychoneuroimmunology is the study of the dynamic, multidirectional interactions between components of the nervous and the immune system. Evidence emerging from this field provides a more holistic understanding of mental and physical wellbeing. Additionally it may offer a richer perspective on pathophysiological pathways to neuropsychiatric disorders. **Presentations:** This symposium brings together a multidisciplinary group of researchers presenting findings of relevance to psychiatry arising from animal models, and human cross-sectional and longitudinal studies. One presentation highlights recent observations in glial cell populations associated with major psychiatric disorders (IE). Emerging evidence from animal models documents that exposure to early-life immune activation may alter brain development with resulting long-term schizophrenia-related behavioural, electrophysiological and molecular outcomes (DH). Conversely, early-life psychosocial trauma may trigger changes in neuro-immune pathways that may perpetuate abnormal behaviour in adulthood (MCJ). Two presentations focus on a potentially role for infection and inflammation in shaping behaviour, emotions and cognitive ability in adulthood and old age (UVC, BB). Novel findings from gene-association studies illustrate how variants in immune genes can significantly increase the risk of developing major depressive disorder (JL). **Conclusions:** The immune and nervous system each subserve important adaptive functions to optimize body integrity and self-regulation. The novel findings presented here indicate that, in particular contexts, immune activation can in vulnerable individuals initiate adverse behavioural and health outcomes. Further research is needed to delineate more clearly the factors that predispose, precipitate and perpetuate neuropsychiatric outcomes in the context of immune activation. Such insights may inform effective prevention and treatment strategies.

PRESENTER 1

Glial cells and psychiatric disorders

Ian Paul Everall[1,2,3]

[1]*Cato Professor and Head, Department of Psychiatry, University of Melbourne*
[2]*Director of Research, North Western Mental Health*
[3]*Honorary Professorial Fellow, Florey Institute of Neuroscience and Mental Health*

Background: The biological basis, including molecular, cellular and genetic contributions to the development of major psychiatric disorders is still poorly understood. Most studies have concentrated on neuronal changes and have ignored glial cells such as astrocytes, oligodendrocytes and microglial cells. This presentation will highlight recent observations of the contributions of glia. **Methods:** Using quantitative stereological methods, immunocytochemistry, gene expression, and analysis of genome-wide association data together with literature review I will present the emerging functions of glia as well as data showing changes to glia in psychiatric disorders. **Results:** Data from my laboratory and other laboratories show a significant reduction glial cell density in a variety of cortical regions, alteration of components of TNFα pathway in schizophrenia, major depressive disorder and bipolar disorder as well as gene pathway alterations related to microglia in autism spectrum disorder. **Conclusion:** There are significant changes in glial cells in major psychiatric disorders that require further understanding and that may provide novel therapeutic targets.

PRESENTER 2

Early-life influences on schizophrenia-related measures in a rat model of maternal immune challenge

Lauren Harms[1,4], Crystal Meehan[1,4], Katerina Zavitsanou[2,3,4], Ross Fulham[1,4], Aaron Wong[1], Juanita Todd[1,4], Ulrich Schall[1,4], Cyndi Shannon Weickert[2,3,4], Patricia Michie[1,4], Deborah Hodgson[1,4]

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Background: The developing brain is sensitive to early-life insults, some of which are believed to increase the risk of neuropsychiatric disorders such as schizophrenia. Maternal immune system activation during gestation via infection is a known risk factor for schizophrenia. Here we examine the role of early-life immune activation on schizophrenia-related behavioural, electrophysiological and neurochemical outcomes. **Methods:** Pregnant Wistar rats were injected with the viral mimic, Poly(I:C) or vehicle at either gestational day (GD) 10 or GD19. Adult offspring were examined for behaviour (prepulse inhibition of the acoustic startle reflex (PPI) and working memory) and electrophysiology (generation 50Hz auditory steady-state responses (aSSRs)). Brain tissue was examined for NMDA receptor (NMDAR) ligand binding. **Results:** Rats exposed to Poly(I:C) at GD10 were found to exhibit reductions in PPI, whereas those exposed to Poly(I:C) during late gestation exhibited working memory impairments. In addition, late gestation-exposed rats exhibited reduced power of 50Hz aSSRs, indicating an impaired ability to generate neural oscillations in the high-frequency (gamma) range. Adult offspring exposed to Poly(I:C) on GD19 had increased binding to NMDAR2A and the NMDAR channel in the hippocampus. **Conclusion:** Maternal immune activation via a viral mimic was sufficient to alter the trajectory of brain development such that there were long-term impacts of several behavioural and electrophysiological outcomes in adulthood. The behavioural, electrophysiological and molecular changes identified here are also found in patients with schizophrenia, indicating that Maternal Immune Activation in the rat may model some aspects of the disorder.

PRESENTER 3

Early life stress and risk to adult psychiatric illnesses: role of neuro-immune interactions in shaping adult brain and behaviour

Magdalene C Jawahar[1], Catherine Toben[1], Jason Izzo, Emily Jaehne[1], Natalie Heriot[1], Emma Harrison[2], Chris Murgatroyd[3] and Bernhard T Baune[1]

[1]*Discipline of Psychiatry, University of Adelaide, Adelaide, Australia*
[2]*James Cook University, Townsville, Australia*
[3]*Manchester Metropolitan University, Manchester, United Kingdom*

Background: World mental health survey (2010) reports nearly 40% of all adult psychiatric illnesses have an early life stress (ELS) component in the form of childhood maltreatment/abuse. ELS events have been shown to increase inflammation in children and adults. The aim of this presentation is to identify the neuro- immune mechanisms post ELS that increase susceptibility to future life stressors and subsequently brain and behavioural dysfunction using maternal separation stress (MS), an animal model of ELS. **Method:** MS was conducted for 3 hours every day between postnatal days (PND) 1-17. Chronic mild stress (CMS) was conducted for 3 weeks period either in adolescence or adulthood and the effect of MS and subsequent CMS were assessed using behavioural, neurobiological and immune responses. **Results:** MS alone showed significant increase in locomotion ($p=0.015$), lowered anxiety-like ($p<0.05$) and social behaviours however addition of CMS in adulthood counteracted this effect. CMS alone increased depression-like phenotype ($p<0.02$). Corticosterone and nerve growth factor levels were significantly lowered after MS ($p<0.01$). Increased IL10 was observed within the hippocampus ($p=0.02$)and FACS analysis of draining lymph nodes revealed decreased T cells and activated/memory phenotype cells in the MS mice. **Conclusion:** Our results suggest that exposure to MS triggers subtle changes in the neuro-immune interaction pathways in early development, such as increased number of T cells infiltrating the brain and increased microglial activation resulting in neuroinflammation. These subtle changes are then possibly exaggerated with a subsequent stress exposure such as CMS in adolescence or adulthood and therefore lead to brain and behavioural pathology in adulthood.

PRESENTER 4

Determinants of post-infective fatigue syndrome: immunological and autonomic findings

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Background: Post-infective fatigue syndrome (PIFS) is a prevalent and disabling neuropsychiatric condition following directly from acute viral infections. We have previously documented strong relationships between variation in cytokine genes, the intensity of the inflammatory response and symptom severity during the acute illness. Here, we report longitudinal analyses of the potential importance of cytokine abnormalities in the pathogenesis of PIFS. Additionally, we explore a possible role for disordered autonomic signalling in delaying recover from infection. **Methods:** Longitudinal analyses utilized peripheral blood and clinical data collected over 12 months in a large prospective cohort study (n=515). Ex vivo production of eight cytokines by peripheral blood mononuclear cells was analysed (BioPlex, Biorad) in a nested case(n=22)-control(n=42) series. Cardiac autonomic activity was assessed via electrocardiogram (Equivital, Hilago) in several patient samples and matched controls to explore a role for vagus nerve activity [inferred from heart rate variability (HRV)] in facilitating recovery from infection; and to characterize autonomic functioning in PIFS. **Results:** PIFS caseness was not related to abnormal cytokine production at any time (all $p>0.05$). In patients with acute infections, increased HRV was significantly associated with lower levels of C-reactive protein ($p=0.002$) and shorter illness duration ($p=0.005$). PIFS status was consistently linked to low HRV. **Conclusion:** Our cumulative evidence suggests that immune activation is a trigger but not the driver of symptomatology in PIFS. Events early during the acute phase of an infection linked to a perturbation in neural signalling are likely to be critical to understanding the pathogenesis of PIFS.

PRESENTER 5

Cognitive ageing: a role for immune activation?

Bernhard Baune[1]

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Background: Inflammatory markers have been associated with cognitive functioning in the elderly in both the general community and dementia specific populations. However, it remains unclear whether inflammation is a potential cause or only an effect or both of cognitive decline. Hence, this presentation demonstrates the cross-sectional and prospective relationships between inflammation, cognitive function and dementia. **Methods:** Cross-sectional and longitudinal studies from the literature including original research from this group will be examined for the causal relationship between inflammation and cognitive decline investigating a range of markers of inflammation. **Results:** CRP in cross-sectional studies was associated with poorer cognitive function and incidence of dementia, however, prospective studies were inconsistent regarding the predictive power of CRP for both cognitive decline and dementia. Increased IL-6 in cross-sectional studies was found to be the strongest predictor of dementia incidence however, was inconsistently associated with poor cognition in non-demented populations. In prospective studies high IL-6 was predictive of cognitive decline as well as risk of dementia. TNF-α was higher in cases of dementia in cross-sectional studies but was not consistently associated with poor cognition in non-demented populations. It was predictive of cognitive decline in prospective studies, though no prospective studies investigated the role of TNF-α in predicting dementia. **Conclusion:** Although these findings indicate a peripheral immune activation during cognitive ageing, the results highlight the limited research for many of these inflammatory markers and their association with cognitive decline and dementia.

PRESENTER 6

Genetic findings in psychiatry: immune-related findings

Ma-Li Wong[1,2], Julio Licinio[1,2]

[1]*South Australian Health and Medical Research Institute, Adelaide, SA, Australia*
[2]*Department of Psychiatry, Flinders University School of Medicine, Adelaide, SA, Australia*

Background: Converging evidence suggests that abnormalities in brain cytokines contribute at least in some cases to the pathophysiology of psychiatric disorders. Recent work implicates variants in immune-related genes in the biology of schizophrenia. We examined a role for variants in immune-related genes in major depressive disorder (MDD). **Methods:** We performed an analysis of single nucleotide polymorphisms (SNPs) in the pathway of immune-related genes in MDD. Subjects were 300 Mexican-American men and women with major depressive disorder, who had been recruited for a pharmacogenetic study of antidepressant treatment response in Los Angeles, along with an equal number of ethnically matched controls. Additionally, to examine the functional impact of immune-related SNPs, we measured levels of cytokines in a subset of patients and controls. **Results:** We found that SNPs in two genes critical for T-cell function were associated with susceptibility to MDD: PSMB4 (proteasome b4 subunit), important for antigen processing, and TBX21 (T bet), critical for differentiation. Our analyses revealed a significant combined allele dose–effect: individuals who had one, two and three risk alleles were 2.3, 3.2 and 9.8 times more likely to have the diagnosis of MDD, respectively. We also describe in MDD increased levels of CXCL10/IP-10, which decreased in response to antidepressants. This further suggests predominance of type 1 T-cell activity in MDD. **Conclusion:** The T-cell function variations described here may account for 47.8% of the attributable risk in Mexican Americans with moderate MDD. Immune function genes are highly variable; therefore, different genes might be implicated in distinct population groups.

Wednesday, SACA Boardroom, 1115-1245

It's not just about your head but why is it so hard to connect your body?

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[3] *Western Mental Health Services, Central Adelaide Local Health Network, Adelaide, Australia*
[4]*Consultant Psychiatrist, Western Mental Health Services, Central Adelaide Local Health Network, Adelaide, Australia*

Background: It is well documented that the physical health of mental health consumers is poorer than the general public with higher mortality rates and life expectancy being 20-25 years less than the general public. Since 2009 SA Health has had a policy to improve the physical health of mental health consumers. *South Australian Strategic Plan: Target T2.7 Psychological Wellbeing - Strategy 5* despite the policy and initiatives it has proven harder than expected to routinely and effectively monitor the physical health of mental health consumers. **Methods:** An SA Mental Health Service wide metabolic health action plan and team were implemented in 2009. Strategies implemented included: training 75 metabolic health trainers; regular in-service training sessions; equipment purchases; Nurse Practitioners; service wide metabolic health months; IT physical health monitoring screens; SA Health web page; team reports; partnerships with GPs; staff surveys; participation in research activities and a dedicated project to test a hypothesis that having a dedicated primary health nurse would raise awareness and improve assessment and referral rates. **Results:** over 500 mental health staff were trained in the importance of metabolic health and biomedical health measurement. 95.4% of consumers prescribed clozapine and 29.41% of consumers prescribed long acting intramuscular medication have a regular physical health assessment. Unfortunately for consumers not connected with medication clinics or involved in the dedicated project the number of physical health assessments recorded is less than anticipated. **Conclusion:** Despite numerous attempts by the action plan team the number of physical health assessments conducted or arranged by mental health staff is disappointingly low. Inclusion of a primary health nurse into a team increased the number of physical health assessments and referrals of consumers to GPs for follow up. Partnering with Primary Health Care is a viable way to ensure physical health assessment and follow-up for mental health consumers.

Recovery patterns during a 6-week admission to a non-acute intermediate Stay Mental Health Unit (ISMHU)

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Background: Access to non-acute inpatient mental health care with a focus on recovery has increased in NSW, with the introduction of a number of intermediate stay mental health units (ISMHU's). This paper reports selected findings from a service evaluation project conducted within a stand-alone 20 bed ISMHU established within the Hunter New England Local Health District in November 2010. **Methods:** ISMHU admissions were planned and coordinated, under a recovery/rehabilitation focused clinical model of care underpinned by an assessment framework provided by the Recovery Star, with an intervention program based around a 6-week stay. Service level data were collated for all admissions over a 12 month audit period (from March 2011 to April 2012). We examined changes in Recovery Star domains and Health of the Nation Outcome Scale (HoNOS) subscales across the admission. The Recovery Star (MacKeith and Burns, 2010) is a collaborative assessment tool covering 10 domains (managing mental health, self-care and physical health, living skills, social networks, work, relationships, addictive behaviour, responsibilities, identity and self-esteem, trust and hope). Following Newnham et al. (2009), four HoNOS subscales were examined (behavioural problems, impairment, symptomatic problems, and social problems). **Results:**

There were 128 admissions during the audit period (N=123 patients). The majority, (75.6%) were transfers from an acute unit. The average length of stay was 46.5 days, although 30.9% of patients had a shorter stay (up to 40 days) and 22.8% a longer stay (over 60 days). During their stay, 82.9% of patients had incremental leave, averaging 6.35 days. Changes across the admission for the Recovery Star and HoNOS will be reported, together with a preliminary examination of relationships with other admission and treatment characteristics. **Conclusions:** Service evaluation projects, such as the current one, improve our understanding about the factors associated with recovery, and, thereby, help us to make better informed decisions about mental health care, interventions and services.

Long acting intramuscular injections – the development and execution of a refresher training program for SA Mental Health Services

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[3]*Consultant Psychiatrist Inpatient Rehabilitation Services Glenside, Central Adelaide Local Health Network, Adelaide, Australia*

Background: Evidence suggests that intramuscular injection technique is not optimal. Use of long acting intramuscular (LAI) medication is accepted treatment for consumers with chronic and persistent mental illness. A Coroner's inquest highlighted the need to review injection techniques. The person's size may be an impediment to the effective delivery of LAI. 40% of mental health consumers are in the obese weight range. **Methods:** An SA Mental Health Service (MHS) injection technique refresher training was developed and structured into three areas; a theoretical component, review of intramuscular injections used, pharmacology of antipsychotic medications and their delivery techniques; practical application including site selection, anatomical markers, injection technique and safety; accreditation in practice, a practical assessment of five intramuscular injections including two ventrogluteal injections. 30 nurses were trained to deliver the LAI refresher program across the five (LHNs). LAI coaches were trained to assess injection technique in practice. **Results:** 27 nurses completed the training requirements and have actively trained nurses across the five LHNs. One LHN has requested 396 mental health nurses be trained by 01/10/2014 being the first LHN to direct a move away from the dorsogluteal injection site. Of the 774 MHS consumers receiving LAI injections 227 have been transitioned to the ventrogluteal site 429 receive their injection in the deltoid, 1 receives their injection via the vastus lateralis site and 117 are still receiving a dorsogluteal injection. **Conclusion:** The refresher training program has been well received by nursing staff with increased confidence in injection technique. Transitioning to the ventrogluteal site from the dorsogluteal site has been well received by the majority of consumers. Reduction in medication dose or more effective symptom control has been anecdotally reported.

Which QALY measures should we use? The comparison of health related quality of life measures, subjective wellbeing scales and severity scales in people with depression

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Background: Economic evaluations of mental health interventions are preferred by many health economists and policy makers when they employ generic outcomes such as Quality-Adjusted Life-Years (QALYs). However the available utility-instruments used to measure QALYs are not comparable since, amongst other things, they measure different quality of life (QoL) domains. The first aim of the current study is to compare the sensitivity of five commonly used utility-instruments (AQoL-8D, EQ-5D-5L, SF-6D, HUI3, 15D), two disease specific depression outcome measures (DASS21 and the K10), three subjective wellbeing measures and one capability measure (the ICECAP). The second aim investigates which utility instrument domains are most sensitive to changes in the disease specific questionnaires and the subjective wellbeing measures. **Methods:** Individual data from 917 adults with self-report depression collected as part of the International Multi-Instrument Comparison Survey are used in the analyses. The MIC survey included respondents from Australia, UK, USA, Canada, Norway and Germany. Descriptive techniques are used to assess the first aim and regression techniques will be used to assess the second aim. **Results**: All the utility-instruments discriminated between the levels of severity measured by the K10 and the DASS21. The AQoL-8D had the highest correlation with the K10 and DASS21 (e.g. the pearson correlation coefficient was 0.734 with the K10). The sensitivity of the QoL domains of the utility-instruments to the k10, DASS21 and the subjective wellbeing scales will be presented as these analyses are currently being completed. **Conclusions**: The results of this study have demonstrated that all the utility-instruments discriminate well between the severity levels of the K10 and DASS21. The value of assessing which utility-instrument QoL domains are most sensitive to changes in routinely used outcome measures and subjective wellbeing is that decisions regarding which utility-instrument should be used for intervention research in depression can be better informed.

In the eyes of the provider: factors associated with developmental surveillance service provision

My Trinh Ha[1], John Eastwood[2,3], Pankaj Garg[1], Olivia Wong[1], Valsamma Eapen[3] and the Watch Me Grow Team

[1]*South Western Sydney Local Health District, Sydney, Australia*
[2]*Ingham Institute of Applied Medical Research, Sydney, Australia*
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Background: Research has consistently emphasized the importance of early intervention for child developmental disorders including autism (Rogers, 1996). Despite this, effective, consistent and timely identification of children at-risk still remains an issue for families, primary health care professionals and policy makers. In NSW, health care professionals such as General Practitioners, Paediatricians and Child and Family Health Nurses are in a unique position to provide effective developmental surveillance to families however very little is known about their experience of providing developmental surveillance services and their perceptions of the factors that impact service provision/ uptake. This study explores the experiences and perceptions of health care professionals who provide developmental surveillance services. **Methods:** Semi structured in depth interviews with health care professionals including 21 General Practitioners, Paediatricians and Child Family Health Nurses working in the South Western Sydney region were conducted. In addition, focus groups with 12 Child Family Health Nurses were also completed. Interviews and focus groups were recorded, transcribed and subsequently analysed using a grounded theory approach. **Results:** Although participating health care professionals can see the benefits of developmental surveillance and understand the importance of such surveillance, all participating health care professionals agreed that issues to do with time constraints, resources, processes and procedures, and various patient factors significantly impacted service delivery and service uptake. **Conclusion:** In south western Sydney, although health professionals recognize the importance and significance of consistent and effective developmental surveillance for early identification of children at risk, they acknowledge that there are barriers that exist for the provision of such services within both public and private health care systems. Understanding and exploring the experiences of health care professionals is vital in determining how processes can be changed to improve both delivery and uptake.

Cost - effectiveness of bipolar disorder treatments to assist priority setting in Australia

Mary Lou Chatterton[1], Cathrine Mihalopoulos[1], Jan Barendregt[2], Michael Berk[1], Rob Carter[1]

[1]*Deakin University, Burwood, Australia*
[2]*University of Queensland, Brisbane, Australia*

Background: Despite bipolar disorder's relatively low prevalence, it creates a significant impact on the individual as well as the community due to its early onset and lifetime duration. Given the complexities of this mental illness and treatment, comprehensive information to inform policy makers is needed. The aim of this analysis is to evaluate the cost-effectiveness of all available acute and maintenance treatments for bipolar disorder (types I and II). **Methods:** A population based model is being developed to estimate the cost per disability adjusted life year (DALY) averted for efficacious therapies to treat adults with bipolar disorder across all phases: acute mania, acute depression, maintenance. The model is based on the 2013 Australian population with the Global Burden of Disease (GBD) epidemiological estimates. Disability weights from the Global Burden of Disease study are used to calculate DALYs. The evaluation takes an Australian health sector perspective and uses standard costs for treatments and other medical services obtained from Australian sources (i.e. Pharmaceutical Benefits Scheme). All treatments with proven efficacy (with an emphasis on randomized clinical trials) for evaluation with the model are sourced from the most current systematic reviews/meta-analyses and supplemented with expert clinical input. The model also incorporates the effect of non-adherence on treatment efficacy. **Results:** Treatments evaluated include the range of atypical antipsychotics, antiepiletics, and lithium. Psychological therapies are evaluated as adjunctive to medication. Electroconvulsive therapy is evaluated as a treatment in the depressive phase only. Results are currently being analyzed and the cost per DALY for the range of treatments across the population will be presented. **Conclusion:** This will be one of the most comprehensive economic evaluations of bipolar disorder treatments for an Australian population since it includes a comprehensive list of medications, psychological therapy and ECT across all phases of the disorder evaluated in a comparable way.

Wednesday, William Magarey East, 1330-1430

Depression in old age – the first step to dementia?

Simone Reppermund[1]

[1]*University of New South Wales, Sydney, Australia*

The worldwide prevalence of depression and dementia has increased dramatically during the last few decades and often the two diseases co-occur. Research suggests that late-life depression is associated with an increased risk for dementia. Determining the extent to which depression is a risk factor versus an early symptom of cognitive decline or whether it is a result of a common neuropathic process is the challenge we are facing. Cardiovascular risk factors, genetic susceptibility, and environmental factors play a role in the genesis of both dementia and depression. The present talk explores the co-occurrence of depression and dementia and summarises the existing literature of associated risk factors.

Navigating the route from bench to bedside in eating disorders

Tracey Wade[1]

[1]*School of Psychology, Flinders University, Adelaide, Australia*

Background: Around 15% of Australian girls will have experienced an eating disorder by age 19, and 23% of young Australian women report disordered eating in the previous 12-month period that has a significant detrimental effect on quality of life. Eating disorders are associated with some of the highest rates of mortality of any other psychiatric disorder and are also associated with significantly elevated rates of suicidal thought and completed suicide compared to the general community. **Methods:** Our understanding of eating disorders appears to lag behind other areas of psychopathology, both in terms of the body of knowledge about the brain and genetic influences, as well as implications for intervention approaches. Recent knowledge about the neurobiology of eating disorders will be summarized as will studies that target indicated temperaments and responses to high-risk environments. **Results:** Anorexia nervosa (AN) is one of the easier eating disorders to examine in terms of neurobiology and resultant implications for interventions because of its relative homogeneity of presentation. It is also the eating disorder which we know least about in terms of effective interventions. **Conclusion:** Disturbances in dopamine and serotonin function which can impact on appetite regulation can also influence traits thought to create a vulnerability to AN, including anxiety, negative emotionality, perfectionism, inflexibility, harm avoidance, and obsessional behaviours. High risk triggers that could interact with genetic vulnerability include stressful life events, dietary restraint, puberty, and increased exposure to the pressure to be thin. There is evidence showing that risk can be moderated for these temperaments and triggers, potentially contributing to the development of effective interventions, both in terms of prevention and treatment.

The "Fear of Fear" and its brain basis

Ben J. Harrison[1]

[1]*The University of Melbourne, Victoria, Australia*

Background: Advances in the neuroscientific understanding of bodily autonomic awareness, or interoception, have led to the hypothesis that human trait anxiety sensitivity – the specific fear of bodily anxiety sensations – is primarily mediated by the anterior insular cortex (AIC). Despite broad appeal, few experimental studies have comprehensively addressed this hypothesis to date. **Methods:** 55 healthy adults (38 female, mean/SD age, 21.7/4.2 years) were assessed with fMRI and a validated Pavlovian fear conditioning task. For each participant, three primary measures of interest were derived: their total score on the Anxiety Sensitivity Index-3; in-scanner ratings of the experience of bodily anxiety sensations during fear conditioning; and a corresponding estimate of whole-brain functional activation to the conditioned vs. non-conditioned stimuli. We then used brain-based mediation analysis to formally test for neural mediators of the predicted relationship between trait AS and self-reported anxiety sensations during fear conditioning. **Results:** Changes in subjective and autonomic measures indicated successful acquisition of the conditioned stimulus, which corresponded with robust activation of brain "fear network" regions. No evidence of significant mediation was obtained for the AIC, but rather the dorsal anterior cingulate cortex (dACC). This region displayed positive Path *a* ($r=0.49$) and *b* coefficients ($r=0.38$), indicating that higher trait AS was associated with greater dACC activation, which predicted increased self-reported anxiety sensations ($a=0.03$ (0.01), $Z=4.07$; $b=0.92$ (0.25), $Z=3.71$; $ab=0.03$ (0.01), $Z=3.62$, $q < 0.05$). **Conclusion:** These findings challenge the hypothesis that trait anxiety sensitivity is mediated by the AIC as part of a larger-scale brain system supporting interoceptive and emotional awareness. It will instead be proposed that anxiety sensitivity is more closely aligned with putative conscious threat appraisal processes mediated by the dACC.

Wednesday, William Magarey East, 1500-1600

Inflammatory and immune markers in psychopathology and the course of psychiatric illness

Bernhard Baune[1], Vibeke Catts[2], Vanessa Cropley[3], Paul Amminger[4]

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[2]*School of Psychiatry, University of New South Wales, Sydney, Australia*
[3]*Melbourne Neuropsychiatry Centre, University of Melbourne, Melbourne, Australia*
[4]*Orygen Youth Health Research Centre, University of Melbourne, Melbourne, Australia*

Background: Multiple lines of evidence suggest that inflammatory and immune mechanisms play an important role in behaviour, psychopathology and in the course of psychiatric illnesses such as schizophrenia. This symposium will present findings related to immune markers in psychiatric illness. **Methods:** We will present studies examining the immune system in 1) animal models and 2) human studies of schizophrenia or individuals at risk for psychosis. **Results:** Broadly, our findings show that 1) chemokine receptors influence learning behaviour and cognition in mice, 2) that peripheral levels of inflammatory markers impacts cognition and brain volume in a subgroup of individuals with schizophrenia, 3) that microglial activation, an index of neuroinflammation, may be increased in the early stage of schizophrenia, and 4) that peripheral inflammation may contribute to the progression of psychosis in the prodromal phase. **Conclusion:** Our studies suggest that the immune system has effects on behaviour and brain function and may contribute to the pathogenesis of schizophrenia and psychosis. Future studies should investigate the effect of anti-inflammatory medications that may target specific subgroups, stages or symptoms of psychiatric illnesses.

PRESENTER 1

Animal models of immune markers and their association with cognition, social behaviour and anxiety

Bernhard T Baune[1]

[1]*Discipline of Psychiatry, University of Adelaide, Adelaide, SA 505*

Background: Inflammation is regarded as an important mechanism of neuropsychiatric disorders. Chemokines, which are a part of the immune system, have effects on various aspects of brain function, but little is known about their effects on behaviour. **Methods:** Using a large behavioural test battery, in CCR6$^{-/-}$ and CCR7$^{-/-}$ mice we compared cognition-like behaviour as well as exploratory, anxiety and depression-like behavior with wild type (WT) C57BL/6 mice. Levels of cytokines TNF-α, IL-1β and IL-6 were measured. **Results:** In the Barnes maze, CCR7$^{-/-}$ mice were shown to take longer to learn the location of the escape box on the 1st of 4 days of training. In the behavioural battery, CCR6$^{-/-}$ mice showed higher locomotor activity and lower anxiety in the open field test, and a lack of preference for social novelty in a sociability test. CCR7$^{-/-}$ mice behaved much like WT mice, although showed higher anxiety in Elevated Zero Maze. While baseline saccharin preference in a 2-bottle choice test, a test for anhedonia depression-like behaviour, was equal in all strains at baseline, weekly tests showed that both CCR6$^{-/-}$ and CCR7$^{-/-}$ mice developed a decreased preference for saccharin compared to WT over time. No differences between strains in any of the cytokines were found. **Conclusion:** Results suggest that the chemokine receptors CCR6 and CCR7 may play a role in cognition and learning behaviour, as well as anxiety and other behaviours. Further exploration in clinical samples of major psychiatric disorders such as psychosis and mood disorders is warranted.

PRESENTER 2

Peripheral inflammation characterizes a subgroup of people with schizophrenia displaying poor verbal fluency and reduced Broca's area volume

Vibeke S. Catts[1,2,3], Stu G. Fillman[1,2,3], Thomas W. Weickert[1,2,3], Rhoshel K. Lenroot[1,2,3], Jason M. Bruggemann[2,3], Stanley V. Catts[2,4,5], and Cynthia Shannon Weickert[1,2,3*]

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[4]*Discipline of Psychiatry, University of Queensland, Brisbane, Australia*
[5]*Brain & Mind Research Institute, University of Sydney, Sydney, Australia*

Background: Previous studies have detected elevated cytokines in the brain and blood of people with schizophrenia, suggesting neuroinflammation may contribute to the pathophysiology in at least some cases. We sought to determine the extent to which elevated peripheral cytokine mRNA expression: 1) characterizes a subgroup of people with schizophrenia, and 2) shows a relationship to cognition, brain volume and/or symptoms. **Methods:** Forty-three individuals with schizophrenia or schizoaffective disorder and 43 matched healthy controls were recruited from outpatient clinics and the community. Peripheral cytokine mRNA levels of IL-1β, IL-2, IL-6, IL-8 and IL-18 were measured by quantitative RT-PCR. Clinical and cognitive assessments included symptom severity ratings, IQ, memory and verbal fluency. Cortical brain volumes integral to language were determined by structural MRI. **Results:** IL-1β mRNA levels were increased by 28% in schizophrenia compared to controls, $t(82)=2.64$, $p<0.01$. Elevated expression of cytokines characterised a subgroup of people from both diagnostic groups ($n=26$), the majority of whom had schizophrenia ($n=17/26$, 65%). Individuals with schizophrenia who displayed high inflammation performed significantly (28%) worse on verbal fluency, $F(1,56)= 7.926$, $p=0.007$, and had a 20% volume reduction of the left pars opercularis (Broca's area), $F(1,53)=13.290$, $p=0.001$, compared to control subjects. **Conclusion:** This study links blood biomarkers of inflammation with both cognitive deficits and brain volume reductions in individuals with schizophrenia suggesting that those with high peripheral inflammation form a neurobiologically meaningful subgroup. The findings raise the possibility of targeted anti-inflammatory treatments in schizophrenia that may address cognitive and brain morphological abnormalities.

PRESENTER 3

Investigating neuroinflammation in schizophrenia

Vanessa Cropley[1], Maria Di Biase[1], Andrew Zalesky[1], Bernhard Baune[2], James Olver[1], Paul Amminger[3], Graeme O'Keefe[4], Andrew Scott[4], Christina Phassouliotis[1], Patrick McGorry[3], Cyndi Shannon-Weickert[5], Ian Everall[6], Ian Hickie[7], Richard Banati[7] and Christos Pantelis[1]

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[7]*Brain & Mind Research Institute, University of Sydney, Sydney, Australia*

Background: Previous studies have detected dynamic brain structural changes in individuals with schizophrenia psychoses at the early stages of the illness. The neurobiological processes associated with these changes remain unclear. We seek to investigate whether microglial activation, a marker of neuroinflammation, is elevated in early illness and related to these progressive brain structural changes. **Methods:** [^{11}C]-(R)-PK11195 Positron Emission Tomography (PET) imaging, indexing microglial activation, was performed on 8 early illness patients, 9 chronic patients and 9 age and gender-matched healthy controls. Standard uptake values (SUVs) reflecting PK11195 uptake were calculated for 116 regions comprising the automated anatomical labeling atlas. A one-way analysis of variance was performed for each region to test for differences in SUVs across the three groups. T1-weighted MRI was acquired to determine regional brain volume. **Results:** PK11195 uptake was significantly increased in the right ($p = 0.0008$) and left ($p = 0.0041$) paracentral lobule in early illness patients relative to both the chronic and control groups. The early illness group also showed a trend for decreased uptake in the left superior ($p = 0.02$) and middle ($p = 0.008$) temporal gyrus. Relationships between regional PK11195 uptake, brain volume and peripheral inflammatory markers will be presented pending data availability. **Conclusion:** We found differential PK11195 uptake, reflecting microglial activation, in the early illness group. This suggests that microglial activation may be altered at the early stages of schizophrenia psychosis, reflecting pathological change. Examination of associations with regional brain volume will help inform the nature of these microglial changes.

PRESENTER 4

Inflammatory cytokines in young people at ultra-high risk for psychosis

G. Paul Amminger[1], Lorna Lopez[2], Miriam Schäfer[1], Patrick McGorry[1], David Cotter[2]

[1]*Orygen Youth Health Research Centre*
[2]*Royal College of Surgeons in Ireland*

Background: Inflammation might be an important common pathophysiological process related to both psychopathology and metabolic disturbances seen in schizophrenia and may be associated with illness progression in people experiencing subthreshold psychotic manifestations. **Methods:** We investigate 39 individuals at ultra-high risk (UHR) of psychotic disorder. After one year, 11 of these individuals transitioned to psychotic disorder, and 28 individuals remained at risk. Forty neuroinflammation biomarkers were quantitatively measured by commercially available electrochemiluminescence immunoassays (MesoScale Discovery) and assayed according to manufacturer's instructions, in blood plasma samples from these individuals. **Results:** Of the 25 markers that passed quality control (CRP, Eotaxin, Eotaxin 3, ICAM-1, IFN-g, IL-12, IL-16, IL-7, IL-8, IP-10, MCP-1, MCP-4, MDC, MIP-1a, MIP-1b, PlGF, SAA, sFLT-1, TARC, Tie-2, TNF-a, VCAM-1, VEGF, VEGF-A, VEGF-D), preliminary results show that 3 markers were significantly increased in individuals who transitioned to psychosis. **Conclusion:** These results confirm the role of inflammation as a factor contributing to disease progression in psychosis. Future research needs to determine if individuals with increased inflammation markers specifically benefit form anti-inflammatory treatments such as omega-3 fatty acids or aspirin.

Wednesday, SANFL, 1500-1600

The naturalistic trajectory of quality of life in bipolar disorder

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Background: Little is known about the trajectory of quality of life (QoL) amongst people with bipolar disorder (BD), or the impact of symptoms on this trajectory. The results of a large scale, prospective, naturalistic multisite study addressing these questions are reported here. **Methods:** Participants were recruited from 12 sites across Canada, with diagnosis of BD I or BD II confirmed on the MINI. Participants were under the care of a psychiatrist, with individual patient treatment plans following consensus guidelines. Data was collected every 3 months for a minimum of a year. Mental (MCS) and physical (PCS) QoL was measured using the SF-36. Symptom data was recorded for mania (YMRS) and depression (HamD17, MADRS). Multilevel modelling was used to analyse the rate of change of MCS and PCS over time. **Results:** A total of 362 participants were recruited: mean age 42.75 (SD=12.18), 207 female (57.2%). Across 1823 visits (M=4.95, SD=2.73), MCS exhibited a positive linear trajectory, while PCS did not vary systematically over time. Significant inter-individual variability was found in baseline and growth rates for MCS, with a trend for lower baseline levels to be associated with steeper increase across time. Investigation of temporal relationships between QoL and symptoms suggested bidirectional effects: The linear trajectory of MCS became non-significant when controlling for mania and depression symptoms at the preceding visit, while the preceding visit's MCS predicted symptoms. **Conclusion:** The present naturalistic study demonstrates for the first time that people receiving consensus treatment for BD report linear improvements in mental quality of life across extended periods. The data also permitted investigation of dynamic interactions between QoL and symptoms, generating novel hypotheses for future research. Methodologically, the study highlights multilevel modelling as a tool for interrogating within-subject trajectories across multiple clinical variables.

Mortality 15-years after specialist early intervention treatment for the first episode of psychosis

Susan Cotton[1,2], Andrew Mackinnon[1,2], Debra Foley[1,2], Philippe Conus[3], Martin Lambert[4], Benno Schimmelmann[5], Michael Berk[1,2,6], Victoria Rayner[1,2], Kate Filia[1,2], Patrick McGorry[1,2]

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[5]*University Hospital of Child and Adolescent Psychiatry, University of Bern, Bern, Switzerland*
[6]*Deakin University, Geelong, Australia*

Background: There is clear evidence that psychosis elevates morbidity and mortality risk beyond the symptoms of the disorder itself. Mortality outcomes of individuals treated for psychosis at specialist early intervention (SEI) centres are less well known, especially over the long-term. Thus, the aim of this study was to ***delineate*** the mortality rate of a cohort 15-years after registration with a SEI centre for the treatment of a first episode of psychosis. Predictors of mortality will also be examined. **Methods:** Between January 1998 and December 2000, 661 patients between the ages of 15-29 years were treated at the Early Psychosis Prevention and Intervention Centre, Melbourne Australia. The 18 month treatment characteristics of this cohort have been extensively examined in the First Episode Psychosis Outcome Study (FEPOS). 15-year outcomes of this cohort are now being examined in a new study (FEPOS15). For this presentation the focus is on data linkage of the FEPOS dataset to key national mortality databases within Australia. **Results:** 40 out of the 661 individuals were deceased. The all-cause mortality rate, and mortality rates pertaining to deaths due to unnatural and natural causes will be presented. Predictive outcome models of mortality will also be presented. **Conclusion:** FEPOS15 is one of the largest studies of an epidemiological cohort from a defined catchment area who were treated for a first episode of psychosis at a SEI. This study offers an opportunity to explore important issues such as what predictors of premature mortality are potentially modifiable. Premature mortality is tragic. The impact and burden on those left behind is devastating; prevention can relieve burden and undue distress for families and individuals. An improved understanding of the inter-relationships between baseline factors and long-term outcomes allows the *translation* of research into the provision of SEI services and *elucidate* the supports required after SEI treatment.

Long-term symptoms and functional trajectories of patients with major depressive disorder post hospital discharge

Scott R Clark[1], Volker Arolt[2], Bora Bayrakci[2], Bernhard T Baune[1]

[1]*The University of Adelaide, Adelaide, Australia*
[2]*Department of Psychiatry and Psychotherapy, University of Muenster, Muenster, Germany*

Background: The impact of major depression on function extends well beyond the resolution of mood symptoms. **Methods:** We present data on 97 patients (51.5% female) treated at University Hospital Muenster for major depressive disorder (MDD), assessed at a median 442 days post-discharge on symptoms (HAMD) and functional measures (GAF, SF-12 plus ability to work). A combined measure of function at follow-up was created by identifying those with GAF and SF-12 above and below a median split plus patient ratings of good versus poor ability to work. The combined score was equal to the sum of the three ratings (range 0-3). These scores were grouped into poor (score = 0), intermediate (score = 1 or 2), and high (score =3) function groups. Linear regression analyses were used to estimate the relationship between GAF and HAM-D scores at admission/discharge and level of function at follow-up adjusted for age, gender, length of inpatient treatment and time to follow-up. **Results:** The combined measure at follow-up showed 29.9% high, 32% intermediate and 38.1% low levels of functioning. Across these three groups, both HAM-D and GAF scores at admission were similar. In contrast, HAM-D ($p=0.003$) and GAF ($p=0.002$) at discharge were predictive of functional outcome at follow-up. Both HAM-D and GAF change scores during admission were predictive of functioning at follow-up. Higher HAMD reductions ($p=0.012$) and improved GAF score ($p=0.007$) during admission were associated with better functioning at follow-up. MDD patients with high functioning at follow-up had a higher mean GAF improvement during admission of 33.8 points, in comparison to 26.0 and 24.0 for intermediate and low functioning. Similar results were found for the HAM-D score change during admission. **Conclusions:** Long-term functioning after hospital-based treatment is highest in MDD patients that achieve large improvements in general functioning and higher symptom reductions during hospital admission.

Worker and patient moral framings of community treatment orders

Sharon Lawn[1], Mariastella Pulvirenti[2], John McMillan[3], Toni Delany[4]

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[3]*Bioethics Centre, University of Otago, Dunedin, New Zealand*
[4]*Southgate Institute for Health, Society and Equity, Flinders University, Adelaide, South Australia*

Background: There are contradictory views about the benefits of community treatment orders (CTOs) for clients[1]. There is also little research on how health professionals who action CTOs think about the involuntary nature of them and the ethically challenging and complex environments within which this work occurs[2]. In this paper we demonstrate how people on a CTO and those working with them use a moral framework to understand and explain their experiences. **Methods:** We conducted eight in-depth interviews with people who had experience of being on a CTO in the past five years. All were current clients of mental health services from Adelaide, South Australia. Ten in-depth interviews with staff working to a CTO were also undertaken. These purposively recruited staff were nurses, occupational therapists, social workers or psychiatrists. The interviews were analysed thematically. **Results:** Workers use a moral framework to justify and make sense of their own internal ethical and moral conflicts about the imposition of care. They use this framework to explain their approach to practice. Empathy, empowerment and narratives about 'duty' and 'caring' are the moral means by which the work is understood as being 'best' for the patient, thereby justifying the imposition. People on CTOs express their experiences as being about learning lessons, and proving oneself, thereby, validating their own internal narratives or perceived beliefs of workers seeing them as a 'bad' person. For some, learning these lessons brought specific meaning to their treatment experience and what it meant for their life. **Conclusion:** Moral framing provides a rationalization for the ethical demands a CTO places on those who are on a CTO and those working with them. For the workers this makes the experience more positive but for those on the CTO it can prove to reinforce the negative self-dialogues they fight every day.

References:

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Wednesday, Premiership Suite, 1500-1600

With or without you: should early intervention programmes for psychosis be delivered within or outside general adult mental health services?

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[4]*Monash University, Faculty of Medicine, Nursing and Health Sciences, Melbourne, Australia* [5]*Discipline of Psychiatry, School of Medicine, The University of Adelaide, Adelaide, Australia*
[6]*Northern Mental Health, Northern Adelaide Local Health Network, SA Health, Salisbury, Australia*
[7]*University College Dublin, Dublin, Ireland*
[8]*DETECT Early Intervention for Psychosis Service, Dublin, Ireland*

Early Intervention in Psychosis is a rapidly evolving field in clinical psychiatry, and Early Intervention (EI) guidelines are today informing the practice of mental health services around the world. However, there is controversy over the optimal service context of specific EI programmes, and whether they are best placed outside, within, or alongside General Adult Mental Health Services. In this symposium, we will look at stand-alone, integrated, consultation-based, and research-oriented EI programmes from Australia and abroad, and examine the evidence for the effectiveness of each model and its' therapeutic components.

PRESENTER 1

Specialist, stand alone early psychosis services – The EPPIC model

Eóin Killackey[1,2]

[1]*Orygen, The National Centre for Excellence in Youth Mental Health, Melbourne, Australia*
[2]*Centre for Youth Mental Health, The University of Melbourne, Melbourne, Australia*

Background: First episode psychosis has developed as a specialised field of expertise and intervention over the last 25 years. In that time the concept of a specific intervention, targeting the earliest phases of illness has developed and a number of approaches taken to intervening. The first model in this area was the Early Psychosis Prevention and Intervention Centre (EPPIC) model. The EPPIC model developed in tandem with a significant focus on research, and consequently the outcomes of the model have been well elucidated. The model combines low-dose antipsychotic treatment with psychological and psychosocial interventions over a fixed period of care. **Methods:** The EPPIC model developed in tandem with a significant focus on research, and consequently the outcomes of the model have been well elucidated. The model combines low-dose antipsychotic treatment with psychological and psychosocial interventions over a fixed period of care. **Results:** The EPPIC approach has consistently been found to be more efficient than other approaches and has been disseminated to several other countries. Being a model that has developed from a research culture, there is still capacity to identify areas in which the model is underperforming and implement new evidence based interventions to address these areas. This has recently been seen in relation to vocational functioning. Similar changes are in train in relation to the physical health of young people with psychosis. **Conclusion:** This presentation will describe the EPPIC model and its evolution from research concept to national platform, highlight supporting research and indicate areas in need of further research.

PRESENTER 2

EPP - An integrated early intervention programme

Melissa Petrakis[1,2]

[1]*St Vincent's Hospital (Melbourne), Mental Health Service, Melbourne, Australia*
[2]*Monash University, Faculty of Medicine, Nursing and Health Sciences, Melbourne, Australia*

Background: The Early Psychosis Program (EPP) at the Mental Health Service at St Vincent's Hospital (Melbourne) is an evidence-based clinical program. The integrated service model focuses on access and inclusiveness for all adult consumers in early stages of psychosis and contact with services, rather than the more prevalent 'youth' model of specialist teams for people aged 16-25. **Methods:** The program has been evaluated, with findings published in 5 papers in international journals in the last 3 years. Fidelity to clinical guidelines has been evaluated through audit of a care pathway; consumer outcomes at 2 years were evaluated in comparison to an historic cohort; a carer group was evaluated both qualitatively and quantitatively; and inpatient psycho-education meetings were evaluated by telephone interview after 6 months. **Results:** The EPP demonstrated superior results for client engagement, and consumer and family psycho-education. Statistically significant improvements were achieved for consumers in experience of care, reduced numbers admitted to hospital, and reduced use of involuntary status and a locked ward. For carers, group psycho-education in the community achieved statistically significant improvements in carers' understanding of psychosis, recovery and relapse prevention. An inpatient psycho-education meeting was useful to carers to support meaning-making, reduce stigma, and assist the recovery of the family system in the months that followed; a combination of verbal information, fact sheets, medication and carer information booklets, and DVDs was valued. **Conclusion:** It is possible to be innovative, evidence-based and achieve quality outcomes with consumers and carers, utilizing an integrated model and expanded age criteria.

PRESENTER 3

EPIS North: a consultation-based early psychosis intervention programme supporting a general adult community mental health service

K. Oliver Schubert[1,2], Liz Higgs[3], Simon McKay[3], Bernhard T. Baune[1], Scott R. Clark[1], Eli Rafalowicz[1,2], Dennis Liu[1,2], Sujata Mylvaganam[3]

[1]*Discipline of Psychiatry, School of Medicine, The University of Adelaide, Adelaide, Australia*
[2]*Northern Mental Health, Northern Adelaide Local Health Network, SA Health, Salisbury, Australia*
[3]*SA Early Psychosis Intervention Service (EPIS), Women's and Children's Local Health Network, SA Health, Bedford Park, Australia*

Background: Since 2009, the South Australian Early Psychosis Intervention Service (EPIS) has been promoting the delivery of evidence-based services for young people experiencing prodromal symptoms or a first episode of psychosis (FEP) across South Australia. In the present project, EPIS for the first time provided on-site clinical services within a General Adult Mental Health Team. **Methods:** On one day per week, two EPIS Clinicians coordinated Early Psychosis Interventions within Northern Mental Health's (NMH) facilities at Salisbury, SA, collaborating with a NMH psychiatrist. Referrals into the programme were accepted for patients between 18 and 25 years of age who had suffered a first episode psychosis within the last 6-12 months and were case-managed. EPIS provided case reviews, family psycho-education and support, physical health monitoring, and age-appropriate multidisciplinary expertise supporting the outpatient clinic. **Results:** Over 12 months, EPIS was involved with 29 consumers, and 20 entered the full treatment programme. Services delivered to this cohort met targets of national and international treatment guidelines. At time of the 12-month service audit, 55% of FEP clients were studying or working, 55% were engaged in active psychosocial rehabilitation, and there was a minimum of adverse outcomes such as drop-out or inpatient readmission. **Conclusion:** Evaluation of this consultation-based Early Psychosis Intervention model is encouraging, and indicates that high quality and developmentally appropriate services can be provided by general adult mental health teams if consultative subspecialist expertise, supervision, and advice are made available to general clinicians on a regular basis.

PRESENTER 4

Early intervention for psychosis in Ireland – a research-oriented integrated model with the adult mental health service

Brian O'Donoghue[1,2,3]

[1]*University College Dublin, Dublin, Ireland*
[2]*DETECT Early Intervention for Psychosis Service, Dublin, Ireland*
[3]*Orygen, The National Centre for Excellence in Youth Mental Health, Melbourne, Australia*

Background: DETECT (Dublin East Treatment and Early Care Team) was the first Early Intervention for psychosis service (EIS) established in Ireland and it encompasses three adult mental health services with a total catchment area of approximately 390,000. The aims of this presentation are to describe: (i) An integrative model of an EIS with the adult mental health services (ii) How the data obtained in research assessments can be shared efficiently. **Methods:** Assessments of all individuals aged between 16 and 65 with a suspected first episode of psychosis were commenced within 72 hours of referral and a SCID assessment was conducted to determine diagnoses. **Results:** The DETECT EIS was initially funded by research grants and following a successful implementation with regular evaluation, it is now funded by the health service in Ireland. During a four year period, the EIS received 632 referrals and just over half (53%) were found to have a first episode of psychosis, 5% had at-risk mental state and the remainder ('non-cases') were diagnosed with an affective or anxiety disorder. Individuals with a FEP were offered CBT, occupational therapy and family psychoeducation from the EIS and also attended the adult mental health service for medication and mental state reviews. The 'non-cases' were referred back to the adult mental health service with a detailed assessment report. **Conclusion:** An integrated EIS model that receives both research and health service funding can offer a number of advantages when implementing early intervention for psychosis nationwide. Additionally, a shared care approach also offers the advantage of a smoother transition to full care within the adult mental health service.

Wednesday, One, 1500-1600

Personality disorders: prevalence and pathology

Co-chairs: Carol Hulbert[1] and Andrew Chanen[1,2]

[1]*University of Melbourne, Victoria, Australia*
[2]*Orygen Youth Health, Victoria, Australia*

Personality disorders are associated with high levels of chronic illness and functional impairment. Comorbidity with other disorders is high and correlated with more severe dysfunction and more complicated diagnosis and treatment trajectory. The present symposium draws together recent studies investigating the prevalence of personality disorders in a community group, and borderline personality psychopathology within an Australian-based cohort of youth with a diagnosis of Borderline Personality Disorder.

PRESENTER 1

The prevalence of DSM-5 personality disorders in Australian women

Shae Quirk[1], Michael Berk[1,2,3,4], Julie Pasco[1,5], Sharon Brennan[1,5], Andrew Chanen[4], Lisa Burke[1], Lana Williams[1]

[1]*IMPACT SRC, School of Medicine, Deakin University, Geelong, Australia*
[2]*Department of Psychiatry, the University of Melbourne, Melbourne*
[3]*Mental Health Research Institute, Melbourne, Australia*
[4]*Orygen Youth Health Research Centre & Centre for Youth Mental Health, The University of Melbourne, Melbourne, Victoria, Australia*
[4]*NorthWest Academic Centre, Department of Medicine, The University of Melbourne, Sunshine Hospital, St Albans, Victoria, Australia*

Background: The prevalence of personality disorder (PD) in the Australian population is not well understood. We aimed to report the prevalence and age distribution of Diagnostic and Statistical Manual of Mental Disorders, 5th Edition PDs in an age-stratified sample of Australian women aged ≥20 years. **Methods:** DSM-5 PDs (avoidant, dependent, obsessive-compulsive, paranoid, schizotypal, schizoid, histrionic, narcissistic, borderline, antisocial) were assessed using a validated semi-structured clinical interview. The prevalence of these disorders and Clusters were determined from the study population (n=756), and standardised to the 2011 census data for Australia. **Results:** Approximately one in five women (20.2%) were diagnosed with any personality disorder, with Cluster C PDs (15.7%) being more common than Cluster A (4.6%) and B PDs (3.0%). Of the individual PDs, obsessive-compulsive (9.3%), avoidant (8.4%), and paranoid (3.5%) were among the most prevalent. The prevalence of the other PDs was relatively low (≤2.6%). The prevalence of any PD peaked in those aged between 30-39 years and subsequently declined in prevalence with increasing age. An acknowledged caveat is that personality likely influences adherence to long term studies and thus might be a source of variance. **Conclusions:** These data emphasise PDs are common among Australian women. A thorough understanding of the distribution of personality disorder and comorbidity in the community might assist future public health care planning for individuals living with these disorders.

PRESENTER 2

Interpersonal functioning and empathy in borderline personality disorder: the role of social perspective coordination

Kate Caldwell[1], Carol Hulbert[1], Henry Jackson[1], Andrew Chanen[1,2]

[1]*University of Melbourne, Parkville, Australia*
[2]*Orygen Youth Health Research Centre & Centre for Youth Mental Health*

Background: Empathy may be a construct that is critical to understanding the interpersonal dysfunction found in Borderline Personality Disorder (BPD). However, empathy in BPD has been under-explored and research has produced inconsistent findings, with results regarding its contribution to interpersonal dysfunction being inconclusive. The present study aimed to further investigate the role of empathy and the relationship between empathy, interpersonal functioning and negative arousal in BPD. **Methods:** Empathy was investigated using the developmental and ecologically-valid Interpersonal Negotiation Strategies (INS) interview. The INS assessed Social Perspective Coordination (SPC) skills following the presentation of four video clips which were designed to either induce high levels of affective arousal in the BPD group (BPD-specific clips) or to induce no or limited affective arousal in both groups (neutral clips). Self-report measures of empathy, social functioning and affective arousal were also utilised. Participants included 41 females (15-24 years) with BPD and 31 females (15-24 years) with Major Depressive Disorder (MDD). **Results:** BPD participants responded to all film clips at a lower developmental level of SPC, and had lower levels of cognitive empathy than MDD participants. However, there was no group difference in affective empathy. Negative affect increased after viewing the BPD-specific clips, especially in the BPD group; however, higher levels of negative affect were only partially predictive of SPC scores. Finally, interpersonal functioning was more impaired in the BPD group than the MDD group. However, lower SPC scores were not predictive of less adaptive interpersonal functioning. **Conclusion:** Individuals with BPD function at a less mature level than individuals with MDD, and this deficit is best captured by ecologically-valid measures. BPD was characterized by high levels of negative affect, which increased when induced by film clips. However, fluctuating levels of negative affect had a limited influence SPC. Finally, the relationship between empathy and interpersonal functioning remains inconclusive and requires further investigation.

PRESENTER 3

Substance misuse in youth with first presentation borderline personality disorder

Franco Scalzo[1], Carol Hulbert[1], Jennifer Betts[1, 2], and Andrew Chanen[1,2]

[1]*University of Melbourne, Parkville, Australia*
[2]*Orygen Research Centre & Youth Health Service, Parkville, Australia*

Background: Previous studies have identified that comorbid substance misuse and Borderline Personality Disorder (BPD) in adults is associated with higher societal costs, more problematic behaviours, and poorer longer-term outcomes than BPD or substance misuse alone. Adult data on co-occurrence of BPD and substance misuse is somewhat confounded by the cumulative adverse effects of comorbidities, multiple traumatic events, individual maladaptive strategies that might be employed to cope with BPD, and pharmacological treatment associated with BPD. The present study assessed substance use in youth with first-presentation BPD, testing whether substance use would be more frequent than the general population, and examined the relationship between substance misuse and severity of BPD symptoms. **Methods:** One hundred and three participants with first-presentation BPD were assessed with established instruments to assist diagnosis of disorders and measure symptoms of depression, severity of BPD, and substance use. **Results:** It is expected that frequency of substance use and polysubstance use will be higher in the BPD cohort than the general population, and that there will be an independent and significant association between the level of substance use and severity of BPD symptoms. **Conclusion:** Understanding substance misuse in youth with BPD and the nature of the relationship between BPD and substance use extends the existing knowledge base to inform policy and treatment responses to this important public health system and societal issue.

PRESENTER 4

Symptomatic improvement and functional outcomes of adolescents with borderline personality disorder

Sarah Craig, [1] Carol Hulbert[1], Jennifer Betts[1, 2], and Andrew Chanen[1, 2]

[1]*University of Melbourne, Parkville, Australia*
[2]*Orygen Research Centre & Youth Health Service, Parkville, Australia*

Background: Borderline personality disorder (BPD) in adolescents is associated with significant impairment in functioning and predicts long-term negative outcomes. The course of BPD is not as stable as once believed; however, research on adult populations has shown that change in psychosocial functioning is slower than symptomatic improvement. The current study examined pre-treatment characteristics associated with symptomatic improvement and investigated change in psychosocial functioning over a 2-year period. **Method:** A clinical sample of adolescents attending a youth mental health service ($N=150$) were administered measures on SCID I, SCID II, Social and Occupational Functioning Assessment Scale (SOFAS), and Health of the Nation Outcome Scale (HONOS) at initial presentation and again at 2-year follow-up. **Results:** At baseline, participants that had BPD symptoms at both time points had a greater number of Axis I disorders, were more likely to have a mood disorder, disruptive behaviour disorder, unstable relationships, an intolerance of aloneness, and participate in suicidal behaviours. Adolescents who demonstrated symptomatic improvement had significantly greater change in psychosocial functioning compared to those that remained symptomatic. Moreover, those that showed symptomatic improvement received functioning scores at follow-up that were considered normative (SOFAS >80). **Conclusion:** It was concluded that a change in psychosocial functioning over time that has been shown to be difficult for adults to achieve, is more attainable for adolescents with BPD. for the BPD adolescent subgroup that remained symptomatic, However, impairment in functioning endures.

Wednesday, Leigh Whicker Room, 1500-1600

International trends over time in the prevalence and harms of alcohol and cannabis use: what is the evidence for the closing gender gap?

Cath Chapman[1], Tim Slade[1], Wendy Swift[1], Zoe Tonks[1], Maree Teesson[1]

[1]*NHMRC Centre of Research Excellence in Mental Health and Substance Use (CREMS), National Drug and Alcohol Research Centre (NDARC), University of New South Wales, Sydney, Australia*

Background: Harms associated with alcohol and cannabis use account for significant burden of disease worldwide. Traditionally, alcohol and cannabis use and related harms are more prevalent in males than females. However, there is emerging evidence to suggest that this is changing with females "catching up" to their male counterparts. If this is indeed the trend then a radical reconceptualization of prevention, early intervention and treatment is required. **Methods:** We conducted systematic reviews of the international literature published between January 1980 and June 2014 on sex differences in a number of key indicators of alcohol and cannabis epidemiology. We computed a common metric, ranked studies according to their level of evidence and mapped these indicators against birth cohorts from 1895 until 1990. **Results:** We used three search strategies to identify 1466 studies. After applying exclusion criteria we obtained a final set of 89 studies (n=73 alcohol; n=22 cannabis) across 61 countries. Outcomes presented in studies included indicators of use, frequent or heavy use, abuse or dependence, consequences and onset of use. Preliminary results show a distinct closing of the gender gap in lifetime use of alcohol. Among cohorts born in the early 1900's men were more than 3 times as likely to use alcohol compared to women. With successive birth cohorts this ratio has decreased to close to 1. **Conclusions:** This poster will present the findings for cannabis use and related harms with implications for prevention and treatment. A related paper will present the findings for alcohol use.

Long-term mortality, remission, criminality and psychiatric comorbidity associated with heroin dependence: 11 year findings from the Australian Treatment Outcome Study (ATOS)

Joanne Ross[1,2], Maree Tessson[1,2], Shane Darke[1], Katherine L. Mills[1,2], Timothy Slade[1,2], Lucy Burns[1], Christina Marel[1,2], Sonja Memedovic[1,2], Joanne White[1,2].

[1] *University of New South Wales, Sydney, Australia*
[2] *NHMRC Centre for Research Excellence in Mental Health and Substance Use, Sydney, Australia*

Background: Heroin dependence is a remarkably persistent, and in many cases, lifelong condition, with a high mortality rate. Yet few studies have examined long-term mortality associated with heroin dependence and very few have examined other outcomes. This paper presents new data on the natural history of the Australian Treatment Outcome Study (ATOS) cohort at 11 years follow-up. Mortality, remission rates, criminality and psychopathology over the 11 year follow-up are examined, and risk factors for these main outcomes are identified. **Methods:** ATOS is a longitudinal prospective cohort study. Baseline data were collected between 2001-2002, and the initial cohort consisted of 615 individuals with heroin dependence. Follow up interviews were conducted at 3 months (follow-up rate: 89.3%), 12 months (80.5%), 24 months (76.3%), 36 months (69.8%), and 11 years (70.1%). Participants were administered the ATOS structured interview, addressing demographics, treatment history, drug use, heroin overdose, criminality, physical health and mental health. **Results:** At 11 years 63 (10.2%) were deceased. The proportion who reported using heroin in the preceding month continued to decrease significantly from baseline to 36 month follow-up (99% v 34%), with further reductions evident between 36-months and 11-years (24.7%). However, one-in-four, continued to use heroin at 11-years and close to one-half were in treatment. The reduction in current heroin use was accompanied by reductions in risk-taking, crime, injection-related health problems, and improvements in general physical and mental health. Positive outcomes were associated with treatment exposure. Major depression was consistently associated with poorer outcome. **Conclusion:** At 11 years, there were reductions in drug use, criminality and injection-related health problems. Evidence based interventions for major depression in this cohort would have the potential to further enhance outcomes.

Attention Deficit Hyperactivity Disorder (ADHD) among Australian substance use disorder treatment seekers

Sharlene Kaye[1], Joanne Gilsenan[1], Jesse Tyler Young[2,3], Susan Carruthers[2], Steve Allsop[2], Louisa Degenhardt[1,4], Geurt van de Glind[5,6], Wim van den Brink[6].

[1]*National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia*
[2]*National Drug Research Institute, Curtin University, Perth, Australia*
[3]*Centre for Health Services Research, University of Western Australia, Perth, Australia*
[4]*Melbourne School of Population and Global Health, University of Melbourne, Melbourne, Australia*
[5]*Trimbos-instituut and ICASA Foundation, Utrecht, The Netherlands*
[6]*Amsterdam Institute for Addiction Research, Department of Psychiatry, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands*

Background: Attention Deficit Hyperactivity Disorder (ADHD) is consistently over-represented among substance use disorder (SUD) populations, particularly when symptoms persist through adolescence into adulthood. ADHD is a significant risk factor for the development of alcohol and illicit drug use disorders and is associated with an earlier onset and more severe course of SUD, as well as poorer SUD treatment prognosis. **Methods:** 489 Australian adult SUD treatment seekers were administered a structured interview assessing demographics, substance use and SUD treatment history, psychiatric history and current psychopathology (i.e. depression, anxiety, stress). Participants were screened for adult ADHD symptomatology using the Adult ADHD Self-Report Scale Screener (ASRS). **Results:** Almost a third (32%) of participants screened positive on the ASRS for adult ADHD with a symptom onset prior to the age of 12. Those screening positive were more likely to report early onset (prior to 15 years) nicotine and illicit drug use and to have a prior diagnosis of childhood ADHD, anxiety, depression and personality disorder. Of those who screened positive for adult ADHD with a childhood onset (<12 years), only 28% had ever received a prior diagnosis of ADHD by a health professional, with an even smaller proportion receiving such a diagnosis in childhood (18%). The screen positive group also reported significantly higher severity levels of current depression, anxiety and stress symptomatology. **Conclusion:** Clinicians should be aware of the potential for clients of drug and alcohol treatment services to have undiagnosed and/or untreated ADHD that may impact on their compliance with, and retention in, treatment. Moreover, those with co-occurring ADHD and SUD are also more likely to have other psychiatric comorbidity, further complicating the course and treatment prognosis of their SUD.

Recruiting for mental health and substance use research via Facebook

Louise Thornton [1], Keith Harris [2], Amanda L. Baker [1], Martin Johnson[3] Frances J. Kay-Lambkin[1,4]

[1] *Centre for Translational Neuroscience and Mental Health, The University of Newcastle, Australia*
[2] *School of Psychology, University of Queensland, Australia*
[3] *School of Psychology The University of Newcastle, Australia*
[4] *National Drug and Alcohol Research Centre, University of New South Wales, Australia*

Background: Recruitment of research participants can be difficult and expensive, especially when addressing highly sensitive topics, or trying to recruit low-incidence, highly mobile or stigmatized groups of people, which is often the case in mental health and substance use research. The internet, and social media sites in particular, offer potentially efficient and cost-effective ways to recruit participants which are underutilized by researchers. This study examined the feasibility of recruiting participants to mental health and substance use research via Facebook and aimed to elucidate the process of recruiting via Facebook for other researchers. **Methods:** Participants were recruited over one month via an advertisement on Facebook, a local research register and university psychology courses. Participants completed an online, or pen-and-paper, survey regarding tobacco, alcohol and cannabis use, history of mental disorder and current psychological distress. **Results:** The 524 participants recruited to the study via Facebook cost $1.86 per participant, while 418 participants were recruited via more traditional methods. Although the Facebook and non-Facebook samples differed significantly on sex, they did not differ on age. Significantly more Facebook participants reported current use of tobacco and cannabis. They also reported significantly more harmful use of these substances. The Facebook sample contained a higher percentage of high-severity alcohol and cannabis users and were more likely to report a history of depression and reported significantly more severe depressive symptoms than the non-Facebook sample. **Conclusions:** Through Facebook we were able to capture a greater proportion of people with high-severity substance use and mental health problems, and were able to capture a greater and more severe range of substance use behaviours. This suggests social media sites are efficient, cost-effective ways to recruit large numbers of participants reporting on health behaviours and conditions of relevance to mental health and substance use research.

Wednesday, SACA Boardroom, 1500-1600

New directions in eating disorder risk factor research

Kate Fairweather-Schmidt[1], Eva Vall[1], Jane Cooper[1], & Catherine Johnson[1]

[1]*Flinders University, Adelaide, Australia*

Background: Current research suggests that concerns about body image, disordered eating (DE) and clinical eating disorders are increasing - not only in adolescents and young adults, but also among those in mid-age. This highlights that more needs to be done in order to better understand and target risk and maintenance factors contributing to disordered eating. **Methods:** Diverse samples, including data from school-based adolescents, clinical populations, young community-based females, and a cohort of community-based twins are modelled in a variety of ways to investigate DE-related predictors and outcomes. **Results and Conclusion:** Findings broaden possibilities for countering risks of DEs via new knowledge concerning genetic risk, novel avenues for intervention, and validation of measures important in the characterisation DE symptoms.

PRESENTER 1

Predicting outcomes in paediatric and adult inpatient eating disorder programs

Eva Vall[1] & Tracey D. Wade[1]

[1]*Flinders University, Adelaide, Australia*

Background: Understanding the factors that predict a favourable treatment outcome for individuals with an eating disorder may assist in improving the efficacy of existing interventions and in developing novel treatment approaches. However, to date, few robust predictors have been identified. The aim of this research is to examine predictors of outcome in adult and adolescent inpatients receiving treatment for an eating disorder. **Methods:** Over the 12-month period from August 2013, consecutive admissions to an adult and an adolescent inpatient eating disorder ward were assessed at baseline, discharge and 3-month follow-up. Final follow-up data for this sample will be available by the end of November 2014. Regression analyses will be conducted to determine whether the selected baseline variables predicted outcome at end of treatment and at 3-month follow-up. In addition to single predictors of outcome, complex interactions between baseline variables will also be examined. **Results:** Preliminary findings from this work in progress will be presented. **Conclusion:** This study will add important insights to the eating disorder treatment literature by comprehensively analysing predictors of outcome for both adults and adolescents receiving inpatient treatment.

PRESENTER 2

Mindfulness in schools: a transdiagnostic prevention programme

Catherine Johnson[1] & Tracey D. Wade[1]

[1]*Flinders University, Adelaide, Australia*

Background: Adolescence is a time of peak emergence for both affect and eating disorders. School based prevention programmes provide an opportunity to target a broad sample of the population at a key developmental window, potentially affecting lifelong trajectories of mental health. Mindfulness shows robust effects in terms of reducing depression, anxiety and stress in adults, and early evidence in youth is promising. However, few controlled trials have been conducted, with only two prevention programmes in schools including follow-up (2-6 months) and none measuring weight and shape concerns, a key protagonist in eating disorders. Mindfulness is purported to improve the ability to tolerate intense negative emotions, but to date, mediational pathways have not been tested in any controlled trials in youth. This study will include a broader selection of outcome measures (anxiety, depression and weight/shape concerns) with longer follow up (12 months), explore mediational pathways, and investigate the effect of parental involvement. **Methods:** In Study 1, 300 male and female Year 8 students will be randomly assigned at class level to control or mindfulness groups, and assessed at baseline, immediately post and after 3 months. This initial study aims to clarify the best measures to investigate mediators of change. A second study will be conducted with 500 Year 8 students. Trios of classes will be randomly allocated to control, mindfulness, or mindfulness with enhanced parent support groups, and followed up for twelve months. **Results:** Preliminary findings from this work in progress will be presented.

PRESENTER 3

Examination of the difficulties in emotion regulation scale and its relation to disordered eating in a young female sample

Jane Cooper[1], Anne O'Shea[1], Melissa Atkinson[1,2] & Tracey Wade[1]

[1]*Flinders University, Adelaide, Australia*
[2]*University of the West of England*

Background: Difficulties with emotion regulation is considered an important maintaining factor of disordered eating. One of the most commonly used measures of this construct is the Difficulties in Emotion Regulation Scale (DERS). The aim of the current study was to explore the factor structure of this measure in young females and to examine its reliability and validity with respect to disordered eating. **Methods**: Females aged 17 -25 years (M age = 19.6 years, N = 486) were examined in the analyses. Confirmatory Factor Analyses were conducted, followed by regression analyses examining the DERS subscales as predictors of eating disorder severity and disordered eating behaviours

Results: The original 6-factor 36-item model did not fit well and analyses indicated a 6-factor 30-item solution was a more suitable fit for our population. Validity and reliability of the 30-item solution were found to be acceptable. Regression analyses also indicated the 36- and 30-item models were able to adequately predict eating disorder severity and disordered eating behaviours with the 'Awareness' and 'Goals' subscales being predictors of the former, and the 'Impulsivity' subscale being a significant predictor of the latter. **Conclusion:** The overall findings suggest that an abbreviated version of the DERS might be more appropriate than the original version with young females, and that this measure exhibits stronger relationships with eating disorder severity and disordered eating behaviours than the longer version. Further examinations of the psychometric properties of the DERS with clinical populations are indicated.

PRESENTER 4

Suicidality and eating disorders: a genetic nexus?

Kate Fairweather-Schmidt [1]& Tracey Wade[1], Nick Martin[2]

[1]*Flinders University, Adelaide, Australia*
[2] *QIMR Berghofer Medical Research Institute, Brisbane, Australia*

Background: Genetic-oriented research in the domains of suicide and eating disorders (ED) has received increasing attention over the past one and a half decades. However, while some literature has examined the preponderance for suicidality among those with EDs, few investigations, if any, have considered their genetic links. The present study examines the additive genetic variance, shared environment, and the non-shared environment sources of variance in suicidality (not including completes), depression, and eating disorders within an adult twin sample. **Methods:** Female twins (N=1,002) aged 28 to 39 years from the Australian Twin Registry were assessed by interview in order to yield lifetime diagnostic information related to depression, disordered eating and self-reported suicidality. Multivariate Cholesky decomposition modelling was used. **Results:** Examination of the latent depression, ED and suicidality factors shows a common genetic basis. However, a significant degree of differentiation is indicated by non-overlapping unique environmental risk factors. **Conclusion:** It is possible that the shared genetic basis of EDs and suicidality underpins an elevated level of comorbidity frequently observed in epidemiological studies. Further, unique environmental influences may shape the phenotypic expression of a shared origin.

Wednesday, William Magarey East, 1610-1710

Cognitive dysfunction in depression: clinical and functional relevance, neural basis and treatment implications

Malcolm Hopwood [1], Sharon Naismith [2], Jim Lagopoulos [2], Bernhard T Baune[3]

[1] *Department of Psychiatry, Psychiatry Unit, Albert Road Clinic, University of Melbourne, Australia*
[2] *Brain and Mind Research Institute, University of Sydney, Sydney, Australia*
[3] *Discipline of Psychiatry, University of Adelaide, Adelaide, Australia*

Major depressive disorder is a multifactorial mental disorder presenting with multiple domains of symptoms. These include clusters such as mood, physical symptoms, vegetative symptoms and cognitive symptoms. Recently, literature has emerged to suggest that cognitive symptoms play a clinically important role in the development and persistence of MDD. More importantly, cognitive symptoms may also form a new treatment target in MDD, both pharmacologically and non pharmacologically. In this symposium, we will highlight the importance of cognitive symptoms in the clinical presentation of both acute and remitted depression and its relevance for patient functioning (Hopwood). Since cognition is a broad domain deserving attention during the assessment and treatment, we will discuss the types of clinical assessments as well as neuropsychological interventions for cognitive dysfunction in MDD (Naismith). In order to explore the underlying neurobiology of cognitive dysfunction, the neural basis of these symptoms and their treatment with antidepressants will be explored (Lagopoulos). Finally, emerging pharmacological treatment opportunities of cognitive dysfunction will be critically reviewed and evaluated (Baune). Taken together, this symposium will increase the awareness of the importance of cognitive dysfunction in clinical depression and it will critically evaluate emerging treatment opportunities for this important symptom domain in MDD.

PRESENTER 1

Clinical importance of cognitive dysfunction in depression

Malcolm Hopwood[1]

[1] *Professorial Psychiatry Unit, Albert Road Clinic and Department of Psychiatry, University of Melbourne, Melbourne, Australia*

Major Depression is a common disorder and the leading cause of disability globally. Major Depression is associated with a broad array of common symptoms with large interindividual variation in the most prominent of these symptoms. Traditional outcome research in Major Depression has focused on classical depressive emotional and biological symptoms as measured by scales such as the Hamilton Depression Rating Scale (HAM-D) or the Montgomery-Aasberg Depression Rating Scale (MADRS). However, a considerable body of evidence exists to demonstrate that cognitive dysfunction is an important component of the clinical profile of Major Depression and contributes significantly to the associated disability. The profile of this dysfunction includes executive, attentional and memory dysfunction. Particular focus has been given to the "hot" cognitive dysfunction with the involvement of emotionally driven attentional bias to negative stimuli. Clinically, these impairments are most often most directly evident in impact in role functioning in areas such as employment, both in those unable to attend employment – "absenteeism" – and those present but functioning below full capacity – "presenteeism". These impairments have been frequently acknowledged as a barrier to effective treatment but presumed to disappear once effective treatment to remission is obtained. However, an increasing body of evidence suggests this is frequently not the case. Further, the persistence of cognitive impairments predicts a worse long term outcome with higher risk of relapse and enduring disability. These findings suggest that cognitive dysfunction in Major Depression is worthy of more thorough evaluation, including its response or otherwise to available treatments.

PRESENTER 2

Assessment and neuropsychological interventions for cognitive dysfunction in depression

Sharon L Naismith[1], Daniel Hermens[1], Sze Lee[1], Ian B Hickie[1]

[1]*Brain & Mind Research Institute, University of Sydney, Australia*

Background: Cognitive deficits occur commonly in depression and are associated with fronto-subcortical dysfunction. They are also predictive of disability, psychosocial outcomes, suicide risk, and treatment resistance. Of concern, cognition does not always improve after resolution of depressive symptoms and in older people, are a risk factor for dementia. **Methods:** In this presentation, a summary of the findings pertaining to cognitive dysfunction will be reviewed, with specific reference to disease phenotypes. Recommendations for testing and screening will be discussed and the results of cognitive training trials will be evaluated. **Results:** Cognitive dysfunction in depression is heterogeneous but is associated with distinct phenotypes and underlying neurobiological change. Informed assessment largely requires sensitive tests, but some screening tools offer promise. Cognitive training interventions may improve some aspects of cognition, but need further evaluation with respect to generalizability and sustainability. **Conclusion:** Neuropsychological assessment in depression is worth considering as a guide to informing holistic patient assessment and treatment planning. Early intervention for cognitive deficits by utilising cognitive training and other neuroprotective strategies now requires further empirical examination.

PRESENTER 3

Imaging and neural basis of cognitive dysfunction in depression and neural basis of antidepressant treatment response

Jim Lagopoulos[1], Daniel Hermens[1], Ashleigh Tickell[1], Ian Hickie[1]

[1]*Brain and Mind Research Institute, University of Sydney, Sydney, Australia*

Background: Metabolic markers of neuronal compromise, neuroenergetics and oxidative stress have been implicated in depression. However, recently a confluence of evidence supporting the role of glutamate and GABA has also been demonstrated. Glutamate and GABA, are two of the most abundant neurotransmitters in the brain, mediating excitatory and inhibitory neurotransmission respectively and recent studies have suggested that many of observed symptoms in depression are mediated as a result of an imbalance between the two. However, the relationship between cortical excitability and mood symptoms is unclear and similarly little is known about how this impacts on antidepressant treatment. **Methods:** One hundred and twenty four young people (55% female; 18-30 years of age) with a depressive disorder underwent proton magnetic resonance spectroscopy (^{1}H-MRS) and clinical and neuropsychological assessments at the Brain and Mind Research Institute, University of Sydney. **Results:** For the whole sample there were significant positive correlations between N-Acetyl Aspartate and three symptom measures (K10 total, HDRS total and BPRS total). For males only, there was significant negative correlation between myoinositol and mental flexibility (TMT-B); and a negative correlation between myoinositol and verbal learning (RAVLT sum). For females only, there was a significant positive correlation between glutamate and psychological distress (K10); a positive correlation between glutathione and mental flexibility (TMT-B); and positive correlations between N-Acetyl Aspartate and three symptom measures (K10 total, HDRS total and BPRS total) – as observed in the whole group (see above). There was also a negative correlation between glutathione and verbal learning (RAVLT sum). **Conclusion:** Young people with depressive disorders have significant changes across a range of spectroscopic markers including those associated with neuronal and glial compromise as well as cortical excitability. Our findings suggest that depression may be associated with impairments in metabolic pathways that subserve the production and modulation of glutamate.

PRESENTER 4

Pharmacological treatment opportunities for cognitive dysfunction in depression

Bernhard T. Baune[1]

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Background: Pharmacological treatment of major depressive disorder focuses on the mood component. However, since various domains of symptoms such as impaired mood, sexual dysfunction, sleep and cognitive impairment are regularly involved in depression, it might be beneficial to optimize the pharmacological treatment by targeting domains more specifically. The aim of this presentation is to review the pharmacological literature on improving cognitive function in depression. **Methods:** A literature search from electronic databases such as Pubmed, PsycInfo and Scopus after applying inclusion and exclusion criteria was conducted. **Results:** Results show that various classes of antidepressants exert improving effects on cognitive function across several cognitive domains. Specifically, studies suggest that SSRIs, the SSRE tianeptine, the SNRI duloxetine, vortioxetine and other antidepressants such as bupropion and moclobemide may exert certain improving effects on cognitive function in depression, such as in learning and memory and executive function. Class-specific cognitive domains or specific dose-response relationships were not identified yet. In addition, the pro-cognitive effects of other pharmacological interventions such as methylphenidate and cognitive enhancers will be reviewed in the context of depression. **Conclusion:** Cognitive dysfunction is an important and clinically relevant symptoms domain of depression. Pharmacological interventions might be useful in targeting cognitive deficits in depression.

Wednesday, SANFL, 1610-1710

Bridging the evidence-policy gap: issues and opportunities for evidence-based mental health

Carla Meurk[1,2,3,4], Amanda Baxter[1,2], Sandra Diminic[1,2], Yong-Yi Lee[1,2]

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'Translational research' is a crucial, but under-valued, aspect of mental health research. Effective translation of evidence into policy and service provision remains the exception rather than the rule. In this symposium we discuss research undertaken by The Queensland Centre for Mental Health Research's Policy and Services Research Group. Taken together, these papers sketch a path from research, to policy and practice. The research presented in this symposium is based on systematic reviews, qualitative stakeholder engagement and critical analysis. We begin by appraising the evidence of a complex mental and physical health issue and its implications for policy and practice. This is followed by two studies that develop frameworks for assessing and building an optimal mental health system at both policy and treatment levels. Finally, we present a broader overview of the necessary components to an effective translational research program. This symposium highlights the complexities of translational research at multiple levels in mental health research and the importance of considering translation in all its phases.

PRESENTER 1

How can we reduce excess mortality due to chronic disease in people with severe mental illness? implications for policy and practice

Amanda J. Baxter [1,2] and Meredith G. Harris [1,2]

[1]*Policy and Epidemiology Group, Queensland Centre for Mental Health Research, Brisbane, Australia*
[2]*School of Population Health, The University of Queensland, Brisbane, Australia*

Background: People with severe mental illnesses (SMI) have reduced life expectancy compared with the general population, and the gap is growing. The majority of deaths are due to preventable chronic physical conditions. **Methods:** We conducted a meta-review of systematic reviews that looked at physical health impact of interventions in consumers with schizophrenia, bipolar disorders or severe affective disorders. Intervention types fell into four categories: mental health interventions; integrative community care interventions; interventions for lifestyle factors; and physical health screening and monitoring. **Results**: Eighteen systematic reviews were identified, of which eight examined mortality as an outcome. Results indicated that psychiatric medications (antipsychotics and antidepressants) may reduce excess mortality, but is likely dependent on treatment adherence. Integrative community care programs may reduce physical morbidity and excess deaths associated with SMI, but the effective components of the interventions need to be identified. Follow-up of study outcomes is necessary to establish long-term benefits to physical health. Interventions to improve risky lifestyle behaviours can reduce the profile of risk factors, but studies with long-term outcomes are lacking. Screening and preventative interventions and improved care in those with comorbid chronic disease are expected to reduce excess mortality, however, no data presently exists to support this. **Conclusions:** Research to determine the most effective strategies required to shift the profile of risk factors for chronic disease is sparse. Two strategies seem indicated: active follow-up by community health agencies into mental health services and improved adherence to guidelines for monitoring and managing the physical health of those with SMI.

PRESENTER 2

Defining minimally adequate treatment for schizophrenia: a review of evidence based treatment guidelines and systematic reviews

Sandra Diminic[1,2], Meredith Harris[1,2], Dan Siskind[1,2,3], Jane Pirkis[4], Harvey Whiteford[1,2]

[1]*Queensland Centre for Mental Health Research, Brisbane, Australia*
[2]*School of Population Health, University of Queensland, Brisbane, Australia*
[3]*Metro South Addiction and Mental Health Service, Brisbane, Australia*
[4]*Centre for Mental Health, Melbourne School of Population and Global Health, The University of Melbourne, Australia*

Background: It is important to monitor the quality of mental health care in order to plan services and identify opportunities for improvement. Epidemiological surveys and health databases can provide important national data about the adequacy of current service provision. Previous studies have applied criteria for minimally adequate treatment (MAT), the minimum dose of potentially beneficial treatment expected to produce a positive outcome, to such data to assess the adequacy of care for schizophrenia. These criteria are now out of date e.g. they focus solely on pharmacotherapy, despite evidence that psychosocial treatments are an effective adjunct treatment. This study aimed to update the definition of MAT for schizophrenia. **Methods:** A review of: a) evidence based schizophrenia treatment guidelines from OECD countries; and b) systematic reviews of schizophrenia treatments conducted to derive a list of evidence based treatments for schizophrenia and number of visits required to achieve a potential benefit. Results were synthesised to determine appropriate parameters for MAT. **Results:** Treatment guidelines vary, with core recommendations including antipsychotics, family interventions, cognitive behavioural therapy, psychoeducation and vocational rehabilitation. Evidence for brief courses of therapy and cognitive remediation is less established. An updated definition of MAT for schizophrenia will be presented. **Conclusion:** Updated criteria for MAT can be applied to evaluate the adequacy of current service provision for schizophrenia with representative population datasets. The results will be used by the NHMRC Centre of Research Excellence in Mental Health Systems Improvement to inform modelling of current and optimal mental health service systems in Australia.

PRESENTER 3

Developing an operational service platform concept to promote evidence-based planning and funding of the mental health service system

Yong Yi Lee[1,2], Carla Meurk[1,2,3,4], Meredith Harris[1,2], Sandra Diminic[1,2], Roman Scheurer[1], Harvey Whiteford[1,2]

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Background: Ensuring that a mental health system provides 'value for money' requires policy makers to allocate scarce resources to the most cost-effective interventions. Organising cost-effective interventions into a service delivery framework requires a concept that can guide the mapping of evidence on disorder-level interventions to aggregations of services that are meaningful for policy makers. The 'service platform' concept provides a basis for doing this, however it currently lacks a precise definition relevant to the mental health sector. This study sought to develop a service platform definition that is consistent with how policy makers conceptualise the major elements of the mental health service system. **Methods:** We developed a definition and taxonomy using existing literature and consultation with experienced mental health researchers. We then used a modified Delphi method to elicit feedback from a panel of 12 Australian mental health policy makers to refine our definition and taxonomy. **Results:** We present the service platform definition which resulted and a taxonomy comprising six service platforms that collectively represent the full spectrum of care delivered by the Australian mental health system. A matrix matching each platform to the needs of the population is recommended as a way of organising cost-effective interventions within a service delivery framework. **Conclusion:** Our findings suggest that the service platform concept could be a useful way of aggregating mental health services to facilitate priority setting by mental health policy makers.

PRESENTER 4

Bridging the evidence-policy gap through engagement with researchers, policy-makers and the public

Carla Meurk[1,2,3,4], Harvey Whiteford[1,2]

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[2]*School of Population Health, University of Queensland, Brisbane, Australia*
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[4]*Centre for Youth Substance Abuse Research (CYSAR), University of Queensland, Australia*

Background: Although the mental health service system in Australia continues to be criticised by advocates, viewed in relation to the contemporary role of science in society, the story of mental health reform is not exceptional. From controversies over climate change and genetically modified organisms to fears about embryonic stem cell research and vaccinations, the absorption of scientific ideas and technologies into good governance and social life, is a far from straightforward process. The increasingly complex social and political life of science has brought about new areas of interdisciplinary research, new journals dealing explicitly with translational research as a subject, and new professional roles. This presentation will provide an overview of key issues in translational research, broadly, and describe a conceptual framework designed to bridge the evidence-policy gap through effective structured engagement between researchers, policy-makers and the broader public. **Methods:** A critical appraisal of literature on evidence-based policy and practice. **Results:** A conceptual framework for an effective research agenda for translating evidence into policy. We will outline the issues and opportunities of: 1. engaging policy-makers via a Policy Advisory Panel; 2. engaging public and policy-makers through the media; 3. developing computerised decision-making tools to facilitate engagement between researchers and policy makers; and 4. anticipatory stakeholder analyses of promising therapies. **Conclusion:** We discuss future research directions aimed at improving the pathway from mental health research to policy.

Cross-disorder cognitive subtypes among schizophrenia and bipolar disorder: common brain dysfunction?

Melissa J. Green[1,2,3,4], Jesseca E. Rowland[1,2], Yann Quidé[2], Nicole O'Reilly[1], Ian Gould[1], Leah Girshkin[1], Nina Teroganova[1,2] , Philip Mitchell[1,4], Vaughan Carr[1,2]

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[3] *Neuroscience Research Australia, Randwick, NSW, Australia*
[4] *Black Dog Institute, Prince of Wales Hospital, Randwick, NSW, Australia*

Background: Schizophrenia (SZ) and bipolar disorder (BD) show impairments in common cognitive domains, reported with greater severity in SZ and with less consistency in BD. Severe neurocognitive deficits may thus represent shared intermediate phenotypes among some cases with SZ and BD.

Aims: We delineated clusters of cross-disorder cases with severe neurocognitive impairment, and investigated the potential for these cognitive subgroups to show similar brain activity when performing a standard working memory task. **Methods:** Participants were 135 clinical cases with an established diagnosis of schizophrenia (n=44) or schizoaffective disorder (n=23; referred to here is SZ) and bipolar-I disorder (n=68), as well as 66 healthy controls (HC). A two-step cluster analysis conducted on performance data from eight cognitive domains was used to determine subgroups of patients with severe cognitive deficits from those with relative spared cognition. Comparisons of these cognitive subgroups were undertaken for functional magnetic resonance imaging data obtained while performing a standard (0/2-back) n-back task. **Results:** The cluster analysis distinguished cases with severe cognitive deficits (CD) across all cognitive domains (N=62: 35 SZ / 27 BD cases), from those who were cognitively spared (CS) relative to HC (N=73, comprising 32 SZ and 41 BD cases). Analysis of neuroimaging (2-back>0-back contrast) data for a subset of clinical cases revealed a significant interaction between diagnosis (BD, SCZ) and cognitive subtype (CD, CS) affecting a large cluster encompassing the left posterior insula, Superior Temporal Gyrus, Rolandic operculum, and Heschl's gyrus ($p<0.005$, FWE-cluster corrected). Post-hoc analyses revealed lack of deactivation in this cluster for SCZ-CD compared to BD-CD. **Conclusions:** Cognitive subtypes reflecting CD/CS distinctions that have been previously shown in SZ samples alone, appear to cross diagnostic boundaries of SZ and BD. Opposing patterns of brain function in the medial temporal regions appears to distinguish SZ and BD cases with severe cognitive deficit.

Using C-reactive protein genetic profile scores to predict risk of depression

Natalie Mills[1,2], Elliot Nelson[3], James Scott[4] , John Whitfield[1] , Margie Wright[1], Nick Martin[1], Naomi Wray[2], Enda Byrne[2]

[1]*QIMR Berghofer Medical Research Institute, Brisbane, Australia*
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[4]*University of Queensland Centre for Clinical Research, Brisbane, Australia*

Background: C-reactive protein (CRP) levels have been associated with Major Depressive Disorder (MDD) and childhood trauma. Genetic variants associated with CRP have been identified through genome-wide association studies (GWAS). Here we explore the phenotypic and genetic relationship between CRP, MDD and childhood trauma. **Methods:** Assessment of a total of 18,411 adults, as part of three population-based surveys of twins from the Australian Twin Registry conducted at QIMR Berghofer Medical Research Institute (QIMR) included lifetime diagnosis of MDD (DSM-IV), and an evaluation of trauma (child sexual abuse (CSA) and child physical abuse (CPA) prior to the age of 18 years). Of these, 8,521 individuals had CRP measures, 6,612 had both CRP and GWAS data. CRP GWAS results from the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) (Psaty, O'Donnell et al. 2009) were used to generate genetic profile scores for CRP in the QIMR sample based on SNPs with p-values <0.001. We tested for association between CRP genetic risk profiles and CRP and MDD phenotypes. **Results:** In males, there was a positive correlation between age and sex adjusted log of CRP levels and number of MDD episodes ($r = 0.03$, p-value $= 0.04$). In females, highest CRP levels were in those with a history of CSA. Whilst CRP profile scores predicted CRP in the QIMR sample, explaining 3% of the variance of CRP, the CRP profile scores did not predict MDD status. **Conclusion:** We replicated published associations between MDD and CRP moderated by sex and CSA. We found no evidence that this relationship reflected genetic differences between individuals in CRP.

Phenotypic and immunogenetic explorations of the acute sickness response to common infections: sick and tired or sad?

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[2]*Inflammation and Infection Research Centre, School of Medical Sciences, University of New South Wales, Australia*

Background: The host response to infection triggers a distinct set of physiological, behavioural and neuropsychiatric changes termed the acute sickness response. Although this response is universal, individuals differ considerably in terms of the overall severity and the specific manifestations of acute sickness symptoms - suggesting host determinants. **Methods:** Participants were 300 Caucasians from an ongoing infection outcomes cohort study. Distinct symptom domains, including mood disturbance, fatigue and cognitive difficulties, were empirically derived by principal components analysis (PCA) of clinical data obtained during acute infection. DNA samples derived from peripheral blood mononuclear cells were sent to the Australian Genome Research Facility (Brisbane, Australia) for genotyping of functional polymorphisms in cytokine genes [tumour necrosis factor (TNF)-α, interleukin (IL)-6, IL-10, and interferon (IFN)-γ]; and their impact on the overall illness severity and the manifestation of specific symptoms following acute infection with Epstein-Barr virus, *Coxiella burnetii* (Q fever), or Ross River virus were assessed. **Results:** We found that the IFN-γ +874 T/A, and the IL-10 -592C/A polymorphisms significantly affected illness severity ($p=0.001$), the production of pro-inflammatory cytokines ($p>0.03$), and the duration of illness. The high-producing IFN- γ +874 T allele was additionally associated with increased fatigue ($p=0.0003$), and the low-producing IL-10 -592 A allele with more severe neurocognitive impairment ($p=0.017$) and mood disturbance ($p=0.044$). The high producing G allele of IL-6-174 G/C polymorphisms also impacted on mood disturbance ($p=0.05$) and cognitive impairment ($p=0.28$) after infection. **Conclusion:** The acute sickness response has discrete symptom domains including fatigue, mood and neurocognitive disturbance which have unique genetic associations. These findings provide the first phenotypic and immunogenetic analysis of different components of the acute sickness response in the setting of naturally-occurring infection in humans

Wednesday, One, 1610-1710

Results from a large RCT of Individual Placement and Support in first-episode psychosis

Eóin Killackey[1], Kelly Allott[1], Susan Cotton[1]; Chaired by Cherrie Galletly[2]

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[2]*The University of Adelaide, Adelaide, Australia*

This symposium reports on the largest randomised controlled trial of Individual Placement and Support (IPS) for people with first-episode psychosis conducted to date. One-hundred and forty six young people with FEP, who were clients of the Early Psychosis Prevention and Intervention Centre (EPPIC), Melbourne, were randomised to receive 6 months of either IPS or treatment as usual. An extensive battery of demographic, employment, education, symptoms, functioning, quality of life, neurocognitive and social cognitive measures was administered. Data were collected at baseline, 6 months (end of intervention), 12 months and 18 months. As well as the primary outcomes of employment and education, this symposium will present data concerning vocational functioning and quality of life, the relationship between neurocognition, social cognition and vocational functioning and the impact of vocational functioning on symptoms, health and other secondary outcome variables.

PRESENTER 1

Baseline to 18 months: main results from a randomised controlled trial of Individual Placement and Support for young people with first-episode psychosis

Eóin Killackey[1], Kelly Allott[1], Susan Cotton[1], Gina Chinnery[1], Henry Jackson[2]

[1]*Orygen Youth Health Research Centre, The University of Melbourne, Melbourne, Australia*
[2]*Melbourne School of Psychological Sciences, The University of Melbourne, Melbourne, Australia*

Background: Young people with mental illness, especially those with first-episode psychosis (FEP), nominate employment as a number one goal. Despite this, in most places, young people with psychosis have high rates of unemployment at entry to services and these rates increase rapidly. Individual Placement and Support (IPS) is an employment intervention with a growing evidence base in FEP. **Methods:** IPS was compared to high quality early psychosis treatment as usual (TAU) for 146 young people attending a FEP clinic in Melbourne Australia. Assessments were conducted at four time points: baseline, 6 months (end of intervention), 12 months and 18 months. **Results:** The IPS group achieved higher employment and education rates, although this was only significant for employment at 6 months – end of intervention (71.6% vs 47.5%, $p=0.005$). Interestingly, the control group (TAU) achieved outcomes that mimicked IPS intervention groups in previous RCTs. Results were maintained across the follow-up period with 52.5% and 64.2% in the TAU and IPS groups, respectively. When education was factored in, 75.4% and 81.8% of the TAU and IPS groups respectively, were either in education, training or employment at 18 months. **Conclusion:** IPS produced a significant early benefit in terms of employment. This advantage was lost over time, however. Overall, participants in both groups had outcomes significantly better than those in routine early psychosis settings and those in non-specialised mental health settings.

PRESENTER 2

The relationship between vocational functioning and quality of life in people with first-episode psychosis

Susan Cotton[1], Kelly Allott[1], Gina Chinnery[1], Henry Jackson[2], Eoin Killackey[1]

[1]*Orygen Youth Health Research Centre, The University of Melbourne, Melbourne, Australia*
[2]*Melbourne School of Psychological Sciences, The University of Melbourne, Melbourne, Australia*

Background: Poor vocational functioning is common in young people with first-episode psychosis (FEP); the prevalence of unemployment and disengagement from academic studies is very high. The overall purpose of this presentation is to delineate the relationship between vocational functioning and quality of life (QoL) in a large group of FEP patients who were participating in a randomised controlled trial (RCT) of Individual Placement Support (IPS). Specific aims were to: (i) determine whether participation in the IPS had an impact on QoL at 6 months, 12 months, and 18 months post intervention; (ii) whether employment/studying status at 6 months, 12 months and 18 months also related to QoL at these time points. **Methods:** There were a total of 146 FEP participants who were randomised to receive either 6 months of IPS plus treatment as usual (TAU) or TAU ($n=73$ in both groups). QoL was assessed using the World Health Organisation Quality of Life- BREF Scale (WHOQoL); overall QoL as well as four domains of QoL (physical, psychological, social, environment) were examined. **Results:** Preliminary statistical analyses depict fluctuation in QoL over time, and the extent to which QoL fluctuates across time in the IPS and TAU groups. The relationship between QoL and vocational engagement over the three time points is examined. A conceptual model regarding the relationship between vocational functioning and QoL will be discussed. **Conclusion:** Vocational functioning and QoL are not synonymous and both are important to consider in recovery from FEP.

PRESENTER 3

The relationship between neurocognition, social cognition and vocational engagement in first-episode psychosis

Kelly Allott[1], Susan Cotton[1], Eoin Killackey[1]

[1]*Orygen Youth Health Research Centre, The University of Melbourne, Melbourne, Australia*

Background: Impaired neurocognition and social cognition are common features of psychosis and are associated with poorer socio-vocational functioning in chronic populations. The relationship between cognition and functioning in first-episode psychosis (FEP) is unclear and it is unknown whether vocational engagement may positively influence cognitive functioning. The aims of this study are to examine: 1) whether baseline neurocognition and social cognition predict 6, 12, and 18-month vocational outcomes; and 2) the impact of IPS and vocational engagement on 18-month neurocognitive and social cognitive functioning in FEP. **Methods:** 135 FEP participants (IPS $n=69$; TAU $n=66$) completed a comprehensive neurocognitive and social cognitive battery at baseline and 18-months and education and employment engagement measures at baseline, 6, 12 and 18-months. **Results:** Six cognitive factors were extracted using factor analysis: (i) social cognition; (ii) information processing speed; (iii) verbal learning and memory; (iv) attention and working memory; (v) visual organisation and memory; and (vi) verbal comprehension. Enrolment in education over 6 months was predicted by baseline education ($p=.002$) and poorer visual organisation and memory ($p=.024$). Employment over 6 months was predicted by baseline employment ($p=.041$) and receiving IPS ($p=.020$). Better visual organisation and memory predicted total hours of paid work over 6 months ($p<.001$). Predictors of vocational engagement at 12 and 18 months will also be reported. Furthermore, group allocation (IPS/TAU) and days employed over 18-months will be examined as predictors of neurocognitive and social cognitive functioning at 18-months. **Conclusion:** Vocational outcomes may be enhanced by addressing cognitive functioning in young people with FEP.

PRESENTER 4

Learning and earning get you more than a job: impact of employment and education on mental health and other functional variables in first-episode psychosis

Eoin Killackey[1], Susan Cotton[1], Kelly Allott[1]

[1]*Orygen Youth Health Research Centre, The University of Melbourne, Melbourne, Australia*

Background: Apart from the obvious financial and knowledge benefits of employment and education, it is well known that participation in these endeavours is associated with a range of other positive outcomes in the general community. The impact of education and employment on the mental health of young people with psychosis has not been examined. **Method:** Utilising results from a large RCT of Individual Placement and Support for young people with first-episode psychosis, analyses were conducted to examine the impact of participation in vocational activities on a range of mental health and other functional outcomes across 3 follow-up time points. **Results:** The study was able to examine the impact of participation in vocational activities on a range of mental health indices. In addition, data will be presented examining health service utilisation, changes in welfare benefits recipient status, social inclusion and substance use. **Conclusion:** While employment and education are related to increased health, social participation, and greater relationships in the general community, the impact of engaging in vocational activities is not well understood for young people with FEP. As a consequence there is a gap in the knowledge we have around the recommendation of pursuit of vocational activities as an intervention in mental health recovery. This presentation will present data from a large study that addresses this issue.

Wednesday, Leigh Whicker Room, 1610-1710

Behavioural assessments of psychiatric symptoms in animal models: the mechanisms involved

Emily Jaehne[1], Thomas Burne[2], Thibault Renoir[3], Maarten van den Buuse[4]

[1]*University of Adelaide, Adelaide, Australia*
[2]*Queensland Brain Institute, Brisbane, Australia*
[3]*Florey Institute of Neuroscience and Mental Health, University of Melbourne, Australia*
[4]*Latrobe University, Melbourne, Australia*

While animal models cannot be used to model a whole psychiatric syndrome, such as depression or schizophrenia, certain symptoms of these disorders can be modelled. This then allows researchers to use transgenic mice or treatment protocols to investigate the mechanisms involved in specific types of behaviour. The speakers in this symposium will discuss various tests of learning and memory, anxiety- and depression-like behaviour, as well as social and sensorimotor gating behaviours. The first presentation will focus on cognitive tasks conducted in rodents and humans using a novel continuous detection task (CDT) to investigate similarities shared with the human continuous performance test (CPT) as an example of reverse translation. The next presentation will look at serotonergic transgenic mice, which have been housed in different environmental enrichment conditions, to see whether this would reverse behavioural alterations seen in knock out (KO) mice. The third presentation will look at sex differences and the role of oestrogen in schizophrenia in the context of a two-hit model of developmental stress. The final presentation will discuss immune-transgenic or knockout mice to further knowledge of the role of the immune system in psychiatric conditions, which will be covered in the first presentation. Overall, there are various ways of modelling symptoms of psychiatric disorders in animal models which can be used to investigate the causes of these conditions, for example immune or stress models, as well as possible treatments such as environmental enrichment, while also determining the mechanisms behind these effects.

PRESENTER 1

Reverse translation of cognitive tasks for animal models of neuropsychiatric disorders

Thomas H.J. Burne[1,2] and Karly M. Turner[1]

[1]*Queensland Brain Institute, Brisbane, Australia*
[2]*Queensland Centre for Mental Health Research, Wacol, Australia*

Background: Schizophrenia is a poorly understood and disabling disorder. Cognitive dysfunction is prominent in patients yet current treatments have little effect on these symptoms. Our aim is to improve translational research between animal models and the cognitive symptoms of schizophrenia. **Methods:** We have recently designed a novel continuous detection task (CDT) to investigate similarities shared with the human continuous performance test (CPT) by looking at performance deficits in rodents that reflect changes observed in patients with schizophrenia. We have begun to evaluate pharmacological agents that improve and impair cognitive performance in rodents. In parallel we are using an equivalent task in humans as a first step in reverse translation of this task. **Results:** We have tested CDT using drugs known to alter cognitive performance, and shown that different doses of amphetamine results in distinctive behavioural changes, such as improved attention at low doses (0.1mg/kg; $p<0.05$) and disrupted attention with increasing dose (1.25mg/kg; $p<0.05$); scopolamine impaired performance (0.1mg/kg; $p<0.05$). We have also piloted the human CDT, and have obtained responses (d' and β) from human subjects which are similar to those obtained in the rat CDT.**Conclusion:** The rodent CDT was developed based on the CPT and translation of the task for use in humans will allow us to use novel cognitive measures to directly assess performance across species. The CDT may lead to a greater understanding of normal and abnormal cognitive functioning, and the development of initiatives for the treatment and rehabilitation of patients with this condition.

PRESENTER 2

Neurobiological mechanisms mediating cognitive deficits in animal models of affective-like disorders

Thibault Renoir[1,2], Jake Rogers[1], Ariel Zeleznikow-Johnston[1], Uyen Vo[1], Laetitia Buret[1,3], Maarten van den Buuse[1,3], Anthony Hannan[1,2]

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[2]*Department of Anatomy and Neuroscience, University of Melbourne, Australia*
[3]*La Trobe University, School of Psychological Science, Australia*

Background: Along with antidepressant treatments, enriched paradigms aiming to enhance cognitive stimulation (e.g. environmental enrichment), as well as voluntary physical activity have been shown to exert beneficial effects on anxiety levels and memory performance in animal models. The underlying mechanisms are still unclear. However, clinical evidence suggests potential serotonin (5-HT) receptor gene polymorphisms and gene-environment interactions in both anxiety disorders and cognitive processing. **Methods:** We have used male and female knock-out mice, with null mutations in genes encoding specific components of 5-HTergic signalling, and their wild-type littermates, randomized into different environmental conditions. We have assessed several aspects relevant to anxiety and cognition through mouse behavioural tests. We have also investigated activity-dependent cellular mechanisms, including adult hippocampal neurogenesis, to further understand experience-dependent plasticity effects on learning and memory. **Results:** Our data suggest enhanced sex-dependent anxiety-like behaviours in 5-HT_{1A} receptor mutant mice. Those behavioural impairments were ameliorated by environmental enrichment. We also found a genotype effect on spatial learning performance in the Morris water-maze. However, hippocampal cell proliferation and BDNF protein levels were increased by voluntary physical activity in both 5-HT_{1A} knock-out mice and wild-type animals. **Conclusion:** The 5-HT_{1A} receptor does not seem to be involved in the neurogenic effects of physical activity. Whether enriched paradigms and pharmacological treatment can rescue cognitive function in 5-HT_{1A} mutant remains to be assessed. Based on our data on anxiety levels, the systematic assessment of both males and females can identify sexually dimorphic gene-environment interactions and cognitive changes of clinical relevance to affective disorders.

PRESENTER 3

'Two hit' animal models of developmental stress: sex-specificity and interaction of oestrogen and brain-derived neurotrophic factor in behavioural and molecular effects.

Maarten Van den Buuse[1,2], Maren Klug[2], Rachel Hill[2] and Andrea Gogos[1,2]

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Background: Schizophrenia and other psychiatric illnesses are likely caused by a combination of genetic and environmental factors during early and adolescent development. Brain-derived neurotrophic factor (BDNF) is involved in brain development and plasticity and is implicated in schizophrenia and depression. **Methods:** To model 'two hit' gene-environment interactions and the involvement of BDNF, we investigated the long-term effects of young-adult corticosterone treatment (CORT) to simulate chronic stress. We used BDNF heterozygous mutant mice and in other studies rats that had undergone a maternal separation protocol from postnatal days 2-14. **Results:** Chronic CORT treatment resulted in deficits in spatial memory in male BDNF heterozygous mice and male maternally-separated rats, but not in controls or females. Behavioural changes were correlated with differential effects on exon-specific BDNF expression and NMDA receptor subunit expression in the brain. During adolescent/young adult development, regional BDNF signalling was markedly different between male and female mice and sensitive to altered circulating levels of estrogen. Furthermore, in animal and human studies we observed differential effects of oestrogen and testosterone in behavioural paradigms with relevance to schizophrenia. For example, in rats, chronic oestrogen treatment prevented a 'schizophrenia-like' disruption of prepulse inhibition (PPI) induced by dopaminergic or serotonergic drugs. **Conclusion:** 'Two hit' models of developmental stress reveal sex-specific vulnerability to behavioural and molecular deficits later in life. Sex hormones, such as oestrogen and testosterone, could mediate these sex-specific vulnerabilities. These studies could be relevant for our understanding of sex differences in psychiatric illnesses and potential treatments based on sex steroid hormones.

PRESENTER 4

Assessing cognition-like, emotion-like and sociability behaviours in immune-transgenic mice

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Background: Inflammation is regarded as an important mechanism involved in neuropsychiatric disorders. Cytokines and chemokines, in particular, have effects on various aspects of brain function and normal functioning of the CNS. **Methods:** A behavioural battery of cognition, sociability and emotion-like behaviours has been established in our laboratory which includes open field, hole-board, novel object recognition, Y-maze, Barnes maze, sociability, elevated zero maze and forced swim tests. Variations of this battery have been used in a variety of immune knock out (KO) mouse models, including TNF, TNFR1, and TNFR2 KOs at different ages, as well as CCR6 and CCR7 KO mice. **Results:** At 3 months of age, TNF, TNFR1 and TNFR2 KO mice all showed impaired learning and/or memory on different cognitive tasks, while TNF and TNFR2 KO mice also showed decreased anxiety. At 6 months of age, however, TNFR1 KO mice showed better memory than controls, while TNF KO mice showed abnormal social behaviour and both TNF and TNFR2 KO mice showed decreased levels of depression-like behaviour compared to wild type (WT) controls. CCR7 KO mice have shown impaired learning and increased anxiety, while CCR6 KO mice showed high baseline locomotor activity, decreased anxiety, and a lack of preference for social novelty. CCR7 KO mice showed a similar lack of preference for social novelty only after previous early life stress in the form of maternal separation. **Conclusion:** Cytokines, chemokines and their receptors play a role in behavioural mouse models, which could be important for understanding neuropsychiatric disorders in the future.

Wednesday, SACA Boardroom, 1610-1710

Presenting the SIMI-LE: a measure of Social Inclusion for use with people with Mental Illness (long-edition)

Kate Filia[1,2], Eoin Killackey[1,2], Henry Jackson[2]

[1]*Orygen Youth Health Research Centre, Melbourne, Australia*
[2]*University of Melbourne, Melbourne, Australia*

Background: Social *inclusion* is increasingly recognised as an important contributor to good mental health and greater mental health outcomes. The potential to make progress has been slowed by the lack of an appropriate measurement tool. The aim of this study was to develop a measure of social inclusion for people with mental illness. Preliminary findings using the measure are presented here. **Methods:** The SIMI-LE was developed using a step-wise process. A thematic analysis of the literature was conducted with 71 pieces of literature reviewed. A list of potential contributors to social inclusion was compiled. A Delphi study was conducted to obtain the consensus of participants regarding the importance of each contributor (32 consumers, 32 carers and 40 community members). The measure was subsequently constructed and preliminary testing conducted with 90 participants (30 consumers, 30 family members and 30 community members). Preliminary psychometric properties of the measure were assessed. **Results:** The findings demonstrated good face validity with 97.8% of participants reporting the SIMI-LE as measuring social inclusion well. A high level of acceptability was also seen with 84.4% of participants happy with the length of time taken to complete it and only 7.8% reporting any difficulty in completing it. Preliminary findings demonstrated poorer outcomes for people with mental illness. Consumers reported considerable financial strain resulting in difficulties covering everyday costs (40.0%), attending important events (30.0%) and affording healthcare (36.7%). 66.7% of consumers live alone. Circumstances of stigma were observed: 76.7% of consumers reported difficulties related to employment because of discrimination due to having a mental illness. Consumers reported feeling limited by their emotional health (63.3%) and ongoing physical ailments (40.0%). **Conclusion:** The SIMI-LE has demonstrated excellent preliminary psychometric properties including the ability to differentiate between groups. Preliminary findings have highlighted poorer outcomes related to social inclusion for people with mental illness.

A multi-site randomised controlled trial of evidence-based supported employment for adults with severe and persistent mental illness

Shannon Dias[1, 3], Geoffrey Waghorn[1, 2, 3], Beverley Gladman[1], Meredith Harris[4], Sukanta Saha[1, 3]

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Background: People with severe and persistent mental illness (SPMI) experience elevated levels of unemployment. The Individual Placement and Support (IPS) approach is an evidence-based form of supported employment which help people with SPMI obtain and retain competitive employment. This approach is not yet widely available in Australia even though there is mounting evidence of its generalisability outside the USA. One previous Australian randomised controlled trial found IPS effective for young people with first episode psychosis. The aim of the current trial was to assess the effectiveness of evidence-based supported employment when implemented for Australian adult consumers of public mental health services by utilising existing service systems. **Methods:** A four-site randomised control trial design ($n=208$) conducted in Brisbane (two sites), Townsville and Cairns. The intervention consisted of an IPS supported employment service hosted by a community mental health team. The control condition was delivered at each site by mental health teams referring consumers to other disability employment services in the local area. **Results:** At 12 months those in the IPS condition had 2.4 times greater odds of commencing employment than those in the control condition (42.5% versus 23.5%). The conditions did not differ on secondary employment outcomes including job duration, hours worked, or job diversity. Attrition was higher than expected in both conditions with 28.4% completing the baseline interview but taking no further part in the study. **Conclusion:** These results show that IPS can be implemented in Australia using existing mental health services to host a co-located full-time employment specialist, employed and co-supervised by a local disability employment service. The IPS supported employment intervention was significantly more effective compared to the control service. The results support previous international findings that IPS supported employment is more effective than non-integrated supported employment.

Enabling midlife women's self-discovery to strengthen self-care in early abstinent recovery

Janice Withnall[1], Stuart Hill[1], Sharon Bourgeois[2]

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[2] *University of Wollongong, Wollongong, Australia*

Background: Practitioners can enable satisfying recovery change processes through which midlife women's (35 to 59 years) Alcohol Use Disorders (AUDs) become established abstinent recovery. Enriching self-discovery strategies for women's recovery care are presented with the aim of assisting practitioners to improve midlife and older women's healthcare services and meet women's needs for wellbeing in recovery. The strategies are findings of our 'Researching with Women in Recovery' (RWR) study, conducted in Australia between 2006 and 2013 (inclusive). The personalised information and new skills also encourages women to continue their recovery. **Methods:** The primary participants of RWR comprised 246 midlife women in abstinent recovery (with 2 to 31 years of abstinence) and 106 practitioners (with recognised qualifications in addiction care) working with clients with AUDs. By the completion of the six Participatory Action Research cycles, there were 970 participants. Data generated through our four lines of inquiry, using six methods of collection (surveys, two types of interviews, email questionnaires, transdisciplinary literature reviews and direct observation), over six Action Cycles, were subjected to NVivo text analysis, as part of a planned mixed methods triangulation process. **Results:** The self-discovery strategies presented assist women to: 1. move through fatigue to vitality; 2. understand brain changes and mental wellness; 3. develop emotional stability in daily living; and 4. accept support for continuing growth through cooperation with agreed recovery partners. The client's partners may include expert peers, Alcohol and Other Drug practitioners, mutual support groups and inter-professional staff, e.g., social workers, counsellors, psychiatrists, GPs. Such evolving partnerships enable healthcare teams (including clients) to continue to learn about women's self-hood and womanhood in recovery. **Conclusion:** Participation in this session is encouraged. Topics for discussion include: women's non-recovery indicators; self-valuing techniques to prevent alienation; and collaborating as a recovery development team to prepare clients to participate in pleasurable activities.

THURSDAY ABSTRACTS

Thursday, William Magarey East, 0815-1015

Connecting research and policy in early psychosis treatment

Robert Heinssen[1]

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Background: The past two decades have witnessed significant advances in scientific investigation of the earliest phases of psychotic disorders, with growing understanding of illness and disability mechanisms. Early identification and intervention programs have been developed and tested in several countries, with accumulating evidence that early treatment facilitates recovery and improves functional outcomes. Although researchers have generated considerable knowledge about the early course of psychosis, the decision to implement evidence-based programs often resides with policy makers who may not possess scientific training. **Methods:** This presentation considers strategies for improving communication between clinical research and mental health policy communities, including methods for engaging state and federal decision makers in the design, conduct, and analysis of early psychosis research projects. In the United States, the Recovery After an Initial Schizophrenia Episode (RAISE) initiative includes key stakeholders, including service users and family members, in all aspects of the scientific process with the goal of producing findings of immediate use to mental health policy makers. **Results:** Before RAISE, two U.S. states supported early intervention services for psychosis. In 2013, initial results from RAISE persuaded three more states to adopt early intervention services for first episode psychosis (FEP). In 2014, the U.S. Congress allocated funds to support nation-wide implementation of evidence-based services for FEP. By 2016, 27 of 50 states will offer early intervention services based on the specialty care model tested in RAISE. **Conclusion:** Bridging the gap between scientists and policy makers requires active engagement to find common interests, shared goals, and meaningful outcome measures. RAISE illustrates one approach for connecting research and policy decision making in early psychosis treatment. Experience with RAISE has contributed to a 'high impact' research agenda that is transforming early psychosis services in the United States, with changed expectations regarding the transfer of knowledge from clinical laboratory to practice setting.

Neuroendocrinology – the link between obesity and depression

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Hormones mediate the interface of the external environment, the brain, and metabolism. Neuroendocrine transduction is the process by which neural transmission induces the secretion of releasing neurohormones by hypothalamic neurons, stimulating the production of pituitary hormones that regulate metabolism. Chronic stress is transduced into dysregulated production of corticotropin-releasing hormone (CRH) and persistent activation of the hypothalamic-pituitary-adrenal (HPA) axis, leading to hypercortisolemia. Increased levels of cortisol in the blood are often found in depression and represent one of the disorder's most common endocrine abnormalities. Cortisol contributes to weight gain and obesity. Cortisol target tissues include liver, bone, blood, vessels, kidney, muscle, brain, and immune system. Long-term exposure to cortisol may eventually result in osteoporosis, muscle weakening and wasting, hypertension, increased fat deposition, immune dysfunction, leading to delayed healing, and diabetes. The sequelae of chronic stress can therefore include not only major depressive disorder (MDD), but also the metabolic syndrome and obesity. There is a counter-regulatory mechanism by which the fat-cell produced hormone, leptin, acts to suppress the HPA axis (Licinio et al., *Nature Medicine* 1997;3:575-579). In healthy individuals, leptin levels are inversely correlated with feelings of sadness (Licinio et al., *Translational Psychiatry* 2014;4:e475). There is in obesity a resistance to the effects of leptin. We therefore suggest that in obesity, particularly obesity that is co-morbid with MDD, there is a dysregulation of the feedback loop that involves stress, HPA activation, obesity and hyperleptinemia, in which increased levels of leptin do not suppress food intake, do not decrease body weight and do not reduce sadness. The mechanisms underlying the dysregulation of the interface and cross talk of centrally and peripherally produced hormones need to be further elucidated. This area represents a new direction for mechanistic studies of the interface of depression and obesity.

Comorbid attention deficit hyperactivity disorder and substance use disorder severity and chronicity in treatment-seeking adults

Jesse Young[1,3], Susan Carruthers[1], Sharlene Kaye[2], Steve Allsop[1], Joanne Gilsenan[2], Louisa Degenhardt[2,6], Geurt van de Glind[4,5], Wim van den Brink[5] & David Preen[3]

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[6]*Melbourne School of Population and Global Health, University of Melbourne, Melbourne, Australia*

Background: Attention Deficit Hyperactivity Disorder (ADHD) is a known risk factor for substance use disorder (SUD) [1], however the potential additive contribution of comorbid ADHD to drug-specific dependence in SUD populations is largely unknown. The current study aimed to assess this association between ADHD symptoms and drug-specific SUD severity and chronicity. **Methods:** A cross-sectional survey was administered to a convenience sample of 489 adults receiving SUD treatment at 16 Australian drug and alcohol treatment centres between September 2010 and August 2011. Participants were screened for adult ADHD symptoms using the Adult ADHD Self-report Scale (ASRS). Associations between ADHD screening status and drug-specific SUD severity and chronicity were assessed using multivariate logistic and modified Poisson regression analysis, controlling for a range of potential confounders. **Results:** Overall, 215 (44.0%) patients screened positive for concurrent adult ADHD and SUD. After Simes correction, a significant positive association was observed between ADHD screening status and *current* amphetamine SUD (OR=1.85; 95%CI: 1.19-2.36). Patients who screened positive for ADHD were significantly more likely to report SUD *history* for heavy alcohol use (OR=2.05; 95%CI: 1.21-3.45) and amphetamine (OR=1.96; 95%CI: 1.26-3.06) as well as significantly increased risk of moderate (3-4 years) duration for benzodiazepines and amphetamine SUDs and long (≥5 years) duration for alcohol, opiates other than heroin or methadone, and amphetamine SUDs. **Conclusion:** The current findings provide evidence there is increased drug dependence severity and chronicity in treatment-seeking SUD patients who screen positively for ADHD, specifically for amphetamine, alcohol, opiates other than heroin or methadone, and benzodiazepines.

References:

1. Wilens, T. E., Martelon, M., Joshi, G. et al. (2011) Does ADHD predict substance-use disorders? A 10-year follow-up study of young adults with ADHD, J Am Acad Child Adolesc Psychiatry, 50, 543-53. doi:10.1016/j.jaac.2011.01.021

Workplace bullying, psychosocial job quality and mental health: results from the PATH through Life project

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Background: Workplace bullying is recognized as an important risk factor for common mental disorders such as anxiety and depression, and a growing concern for policy-makers given compensation claims related to psychological injury in the workplace. This paper uses data from a large Australian community survey to investigate the association that workplace bullying and other aspects of the psychosocial work environment (demands, control, insecurity) have with mental health. **Methods:** Analysis of data from a large community survey conducted in Canberra and Queanbeyan region in south-east Australia. The PATH Through Life Study was established in 1999, using a narrow cohort design, with respondents reinterviewed every 4 years. The data for this analysis are drawn from four waves (covering 12 years) for approximately 5000 respondents initially aged in their early 20s and early 40s. Workplace bullying was first assessed in wave 4 using both a self-labelling and operational (scale) approaches. Other measures of the psychosocial work environment, mental health (symptoms of depression, anxiety) and other socio-demographic covariates were measured at all waves. **Results:** Factor analysis revealed three dimensions of workplace bullying: person-related bullying, work-related bullying, and violent or intimidating behaviour. The analyses demonstrated a strong association between reports of bullying and other adverse workplace characteristics but suggested bullying represented an independent risk for depression and anxiety. **Conclusion:** Workplace bullying is a particularly salient workplace stressor, and a potentially important factor to consider when seeking to improve mental health.

The experiences of Australian men and women with psychosis: the second Australian national survey of psychosis

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Background: Women with schizophrenia have better premorbid and social functioning, milder delusions and fewer negative symptoms, better responses to medication, and spend less time in hospital than men. Sex differences or women's later age of onset may account for women's better outcomes. It has, however, been suggested that women's functioning may decline over time to later approximate that of men. **Methods:** To investigate if women with schizophrenia showed differential outcomes depending on duration of illness compared to their male counterparts, our sample included 1825 participants with psychosis from the second Australian national survey of psychosis, which was conducted via face-to-face interviews, included key clinical and demographic information, and service utilisation. The sample was divided by sex and duration of illness (<5 or $6+$ years). **Results:** The most common diagnosis was schizophrenia, with a younger onset age for males than females. All individuals in the longer phase had experienced multiple episodes. More males than females in the longer phase used alcohol, cannabis and other drugs. Most participants depended on a government pension, though more males than females were gainfully employed. More women than men attained post-school education and qualifications, had and maintained relationships, and owned/rented their own homes. There were no differences in social functioning in the year prior to survey. Early phase social functioning was normal but with increasing years, deteriorated, with longer phase men faring worse than longer phase women. Yet, despite having better access to a confidante than men, women were more likely to feel stigmatised and sensed a lack of control. **Conclusion:** In summary, interventions are required which maximise successful help-seeking and provision of optimal quality care. Combining services in a gender-specific way could improve uptake of services and better outcomes, e.g., substance use and accommodation services for men that are co-located; and employment support groups for women.

The centrality of latent variables when examining the correlates of mental and substance use disorders

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Background: Recent evidence has suggested that comorbidity amongst mental and substance use disorders is better characterized by a relatively small number of broad dimensional variables that represent either internalizing or general substance use/dependence liabilities. These variables capture the shared relationship or commonalities across several putatively distinct mental and substance use disorders. What remains unknown is whether the various correlates of mental and substance use disorders are related to the general dimensions or whether specific relationships associated with various mental and substance use disorders remain significant after controlling for the general relationship. **Methods:** The current presentation reports findings from three studies that seek to determine the general and specific correlates of mental and substance use disorders. The first study examined the shared and specific relationships between internalizing and suicidality, treatment seeking behavior, and disability. The second study examined the shared and specific relationships between internalizing, substance use and exposure to a range of traumatic events. The final study examined the shared and specific relationships between internalizing, substance use and several comorbid physical conditions. Across all studies the general and specific relationships were examined using Multiple Indicator Multiple Causes (MIMIC) modeling. **Results:** The results of all three studies converge on a similar conclusion. The majority of variance between mental and substance use disorders and the correlates of interest are mediated through the broad underlying dimensions. There were some interesting specific relationships that continue to exist, particularly between certain traumatic events and post-traumatic stress disorder, which may warrant further investigation. **Conclusion:** The internalizing and substance use/dependence liabilities explain the majority of the relationship between multiple putatively distinct disorders and several correlates of interest. Indeed, these studies provide further support that broad transdiagnotic latent variables play a central role in understanding the various correlates of mental and substance use disorders.

The prevalence and correlates of Substance Use Disorders (SUDs) comorbid with mood disorders and anxiety disorders: a national perspective

Katrina Prior[1 2], Katherine Mills[1 2], Joanne Ross[1 2], & Maree Teesson[1 2]

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Background: This study will report the most recent Australian data on the 12-month prevalence of comorbid SUDs, mood, and anxiety disorders. For the first time, differences in demographic, physical health, disability, suicidality, and social wellbeing correlates will be investigated between individuals with a i) SUD alone, ii) SUD and mood disorder *or* anxiety disorder, iii) SUD and mood disorder *and* anxiety disorder. **Methods:** The 2007 NSMHWB was a nationally representative household survey of 8841 Australian adults aged between 16 and 85 years that assessed participants for symptoms of the most prevalent DSM-IV mental health disorders. **Results:** Nearly 1% of the population experienced a SUD as well as a mood or anxiety disorder in the past year, representing approximately 131,000 Australian adults. Among those with a 12-month SUD, over 20% had a mood disorder, 31% had an anxiety disorder, and 16% had both a mood and anxiety disorder in the same year. Compared to those with a SUD alone, those with a SUD and mood *or* anxiety disorder were 3 times more likely to have at least 1 of 6 physical health conditions and were over 4 times more likely to have had suicidal thoughts in the previous 12-months. Individuals with all three classes of disorder were more likely to have been homeless (OR 5.7), been in prison (OR 7.6), and received a government allowance (OR 3.0). They were also over 10 times more likely to have experienced disability and 22 times more likely to have had suicidal thoughts that year. **Conclusion:** These results are unique in their assessment of the level of disability, debilitation, and suicidality experienced by individuals with comorbid SUDs, mood and anxiety disorders. The development and provision of interventions targeting comorbidity in substance users is especially urgent in individuals with increased classes of comorbid mental health disorders.

Thursday, SANFL, 1035-1150

Nocebo effects in the treatment of major depression: results from an individual study participant level meta-analysis of the placebo arm of duloxetine clinical trials

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Background: The nocebo effect, when a harmless substance creates harmful effects in a person who takes it, is a clinically salient yet seldom studied phenomenon that may be associated with poorer treatment outcomes, perceived adverse events and treatment discontinuation. The covert presence of nocebo responders in clinical trials may contribute to outcome variance in both placebo and active treatment arms for important primary and secondary endpoints. Nocebo effects are thought to be driven by expectancy and conditioning. **Methods:** This study analysed pooled clinical trial data in the placebo arms of controlled trials of antidepressant medications to investigate variables associated with the emergence of adverse outcomes in placebo-treated participants (N=2457). Specifically, we examined treatment-emergent adverse events (TEAEs) and discontinuation in placebo-treated individuals. Trials were commenced between 1993 and 2010 as studies of duloxetine versus active comparator and/or placebo. **Results:** TEAEs were reported by 1569 (63.9%) placebo-treated participants, with 115 (4.7%) discontinuing from the studies due to TEAEs and 270 (11.0%) showing worsening of HAMD total score during placebo treatment. There was specifically no evidence to support the expectancy hypotheses, that reported TEAEs were influenced by adverse effects described in the clinical trials participant information and consent forms, nor the conditioning hypothesis, that reported TEAEs would be influenced by adverse-effect profiles of previous antidepressant medications used by these study participants. There was some evidence to suggest that people who have previously used complementary medications were more likely to report TEAEs. Variables specific to individual studies were the strongest predictors of TEAEs. **Conclusion:** In this study, TEAEs were very common among placebo-treated clinical trial participants. Unexpectedly, there was no evidence to associate TEAEs with adverse clinical outcomes, nor were the conditioning or expectancy hypotheses supported by these data. The nocebo effect is a poorly understood driver of clinical outcomes that requires further investigation.

Can we boost the effects of internet-based cognitive behavioural therapy for depression with cognitive bias modification? A randomised controlled trial

Kathleen O'Moore[1,2], Alishia D. Williams[1,2], Simon E. Blackwell[3], Jessica Smith[2], Emily A. Holmes[3,4], Gavin Andrews[1,2]

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[4]*Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden*

Background: Depression is a global health problem, estimated to become the leading cause of burden of disease worldwide by 2030 (World Health Organization, 2008). The limitations in efficacy and accessibility of current treatments for depression have led to increasing recognition of the need for treatment innovation, such as the development of easier to access, and more cost-effective psychological therapies. Accruing evidence suggests that positive imagery-based Cognitive Bias Modification (CBM) could have potential as a standalone targeted intervention for depressive symptoms or as an adjunct to existing treatments. We sought to establish the benefit of this form of CBM when delivered prior to internet cognitive behavioural therapy (iCBT) for depression. **Methods:** A randomized controlled trial (RCT) of a 1-week internet-delivered positive CBM vs. a matched active control CBM condition for participants (N=75, 69% female, mean age=42) meeting diagnostic criteria for major depression; followed by a 10-week iCBT program for both groups. **Results:** In both conditions there were significant reductions (Cohen's *d*s .57-1.58, 95% CIs =.12-2.07) in primary measures of depression and interpretation bias. Large effect size reductions (Cohen's *d*s .81-1.32, 95% CIs = .31-1.79) were observed for secondary measures of distress, disability, anxiety and repetitive negative thinking. Analyses indicated between-group superiority of the positive over control group on depression symptoms and psychological distress following CBM (Hedges *g*s .55-.88, 95%CIs=-.03-1.46) and following iCBT. Clinically significant change was observed for 61% of participants following the 1-week positive CBM intervention and increased to 69% following the combined intervention. The majority (>70%) no longer met diagnostic criteria for depression at 3-month follow-up. **Conclusion:** Results support the successful integration of imagery-based CBM into an existing internet-based treatment for depression.

What interrupts a suicide attempt in men? The men's experiences of depression and suicide project

Helen Christensen[1], Kay Willhelm[2], Judy Proudfoot[1], Dusan Hadzi-Pavlovic[1], Fiona Shand[1]

[1]*Black Dog Institute, Sydney, Australia*
[2]*Faces in The Street St Vincents Hospital, Sydney, Australia*

Background: Eight out of 10 suicide deaths in Australia are men, yet little is known about what interrupts a suicide attempt for men. This paper aims to identify the factors that interrupt a suicide attempt and how men might best receive information about depression and suicidality. **Methods:** Men and family and friends of men completed an online survey. Questions included the signs of depression and suicidality in men, factors that interrupt a suicide attempt, barriers to accessing help, and strategies for getting information to men. Both groups were assessed for depression and anxiety. Analysis using frequencies and means has been conducted. Further analysis will examine relationships between variables within the surveys. **Results:** There were differences in the findings between the two groups for signs of depression and suicidality, barriers to accessing help, and the factors that interrupt a suicide attempt. Few men said that they didn't know where to get help, however many had withdrawn from others or did not want to burden them. The factors that interrupt a suicide attempt identified by the men suggest than men do want help during these times; however they want it from particular people and in particular ways. **Conclusion:** although men continue to find it difficult to seek help when they're distressed and suicidal, these findings suggest that men would like help in particular ways. Implications for public health and clinical practice will be reviewed.

Predictors of depression in the male partner 12 months following miscarriage

Martin P. Johnson[1], Simon Scarr[1], Jay A. Richards[1], Anthony Lamotte[1]

[1]*University of Newcastle, Callaghan, NSW, Australia*

Background: Miscarriage has the potential for intense and enduring psychological consequences for a couple. However, much less is known regarding the longer-term grief outcomes for men. It has been hypothesised that incongruent grieving can result in increased negative psychological outcomes; yet, to-date, few studies have tested this empirically. This research explored the long term psychological impact of miscarriage on the male partner and identified predictors of ongoing depression up to 12 months post miscarriage. **Methods:** One hundred and sixty-nine male/female couples, whose pregnancy ended due to miscarriage, provided general and reproductive demographic details. The Beck Depression Inventory (BDI) was completed during the 1st trimester of pregnancy, at miscarriage, and 12 months post-miscarriage. Grief and incongruent grief were measured by the Perinatal Grief Scale (PGS) at miscarriage, and 12 months post-miscarriage. Information on frequency of General Practitioner (GP) visits in the 12 months prior to and post miscarriage was also collected. **Results:** Findings indicate a significant increase in men's depression scores at miscarriage, compared to during pregnancy, which then significantly decreased at 12 months post-miscarriage, but were still significantly above pregnancy levels. Further, there was a significant increase in GP visits in the 12 months following miscarriage. Significant predictors of depression 12 months post miscarriage were; depression at miscarriage, depression at pregnancy, an increase in GP visits following miscarriage, incongruent grief and PGS total score at miscarriage. **Conclusion:** We argue that an internal grief reaction following miscarriage, may be a risk factor for poorer mental health outcomes for the male partner in the long term, especially if that grief reaction is less expressive than the female partner's reaction. Further, the findings suggest that an increase in GP visits following miscarriage can be used as a proximal predictor of male depression.

The ORBIT project: pilot evidence for feasibility and efficacy of a novel international online mindfulness-based intervention for late stage Bipolar Disorder

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Background: People in the *late stage* of Bipolar Disorder (BD) are poorly served by current interventions: They are unlikely to benefit from traditional psychotherapies, exhibit increased relapse risk and poorer quality of life (QoL). To meet this need, our international team developed ORBIT (online, recovery-focused, bipolar individualised therapy) in close consultation with end-users. ORBIT targets QoL through emotion regulation, sleep and sense-of-self mechanisms, and is delivered in a brief, multi-media web format. Here, we report on an open Phase II trial of ORBIT. **Methods:** Inclusion criteria were: self-reported primary diagnosis of BD, experienced 6 or more episodes of BD, under the care of a medical practitioner, access to a computer and internet, proficient in English, 18-65 years of age, and willing to commit to a 3-week intervention. To test international feasibility, ORBIT was hosted and ethically approved at Swinburne University, while participants were recruited through our network in Canada. Primary outcome was change (baseline – post-treatment) on the Brief QoL.BD (Michalak & Murray, 2010). **Results:** Twenty-six people consented to participate. Average age was 45.2 years ($SD = 14.0$), and 16 (61.5%) were female. Ten participants were lost to follow-up, with complete pre- and post-intervention data obtained from 16 (38.5% attrition). Completers analysis found QoL was improved post-treatment ($M = 42.63$, $SD = 8.68$) compared with baseline ($M = 39.19$, $SD = 9.22$), $t(15) = 2.88$, 95% CI: .89 – 5.98, $p = .011$. Improvement was of large magnitude (partial $\eta^2 = .36$), and exceeded the 'one SEM' criterion for minimally important change. Intention-to-treat analyses (LOCF, $n = 26$) also found statistically significant improvement in QoL ($p = .014$, partial $\eta^2 = .22$). All completers reported they would recommend the program to others with BD. **Conclusion:** Pilot testing suggests ORBIT is feasible, acceptable, efficacious and now warrants full development and definitive international trial.

Cognitive Adaptation Training for first-episode psychosis: feasibility, acceptability and potential benefits

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Background: Cognitive and functioning impairments are common in early psychosis and remain one of the greatest treatment challenges. Cognitive Adaptation Training (CAT) is a compensatory approach to psychosocial intervention underpinned by a model that incorporates the role of cognition in daily functioning. CAT has established effectiveness in chronic schizophrenia, but has received little investigation in first-episode psychosis (FEP). The aim of this study was to examine the feasibility and acceptability of CAT in young people with FEP. **Methods:** An uncontrolled feasibility study of CAT was conducted at the Early Psychosis Prevention and Intervention Centre, Melbourne. Five FEP participants received manually-guided CAT from a fully-trained CAT therapist. Feasibility and acceptability measures, goals and functional needs of the participants and clinical observations were recorded. Formal measures of functioning, quality of life and motivation were administered pre- and post-intervention. **Results:** All participants completed the CAT intervention and session attendance was very high (95.3%). Participants and their case managers indicated strong satisfaction with CAT with positive mean ratings on all satisfaction items. Case managers reported that CAT enhanced their treatment. The key clinical considerations and adaptations to CAT for FEP included: the functional needs of participants had a strong focus on educational and vocational functioning and the behaviours underpinning these roles; cognitive heterogeneity; frequent use of calendars and diaries and portable compensatory aids; high family involvement; and awareness of stigma and adaptation to the functional effects of experiencing FEP. 4/5 participants reported benefiting from CAT. Mean improvements from baseline to post-intervention were observed on most formal measures, with the largest effects in global functioning, planning and organization and quality of life. **Conclusion:** CAT is a feasible and acceptable intervention in FEP and may be easily integrated within clinical services. Preliminary findings support the conduct of larger controlled trials of CAT adapted for FEP.

Behavioural activation treatment for co-occurring depression and substance use disorder: the activate study protocol

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Background: Among Australians with a substance use disorder, almost 1 in 5 suffer current major depression. The prevalence of depression among drug treatment entrants is even higher (25-40%), and is associated with a more severe illness course and poorer outcomes. Yet the development and assessment of interventions for this comorbidity has received limited empirical attention. The Activate Study will evaluate the efficacy of Behavioural Activation for Depression (BATD-R), in reducing depression symptoms and substance dependence. The BATD-R manual has been modified for use among individuals currently undergoing Opioid Replacement Therapy (ORT) or Residential Rehabilitation (RR). **Methods:** *Design:* A parallel, single blind, randomised control trial (RCT) recruiting participants from ORT and RR services in Sydney, Australia. The sample is being stratified by treatment modality and allocated, following minimisation, into one of two groups: Activate Intervention (*BATD-R* in conjunction with standard care; n = 100), or Treatment as Usual (standard care; n = 100). *Intervention:* 10 individual 60 minute sessions with a clinical psychologist. *Treatment as usual:* Standard practice at participating services. *Data collection*: Participant interviews completed at baseline, 3 and 12 months. *Measures:* Primary outcome measures include depression (CIDI 3.0 & Beck Depression Inventory-II), substance use and dependence (CIDI 3.0 & Severity of Dependence Scale). Secondary outcomes include Environmental Reward; Behavioural Activation; Comorbid mental health (anxiety, social phobia, borderline personality disorder, trauma, rumination, distress tolerance and sleep). Client Satisfaction will be assessed as a measure of treatment feasibility. **Statistical analyses:** Intention-to-treat, per-protocol analyses, and mixed or marginal longitudinal models are planned to assess categorical and continuous outcome measures. **Conclusion:** The Activate study will be one of few RCT's of psychosocial treatments for depression and substance use comorbidity to be conducted internationally. Of relevance to both the clinical and research community, the findings will contribute significantly to understanding to treat this comorbidity.

Cost utility analysis of a psychological intervention in distressed cancer patients and carers: beating the blues

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Background: A randomised trial compared a nurse led self-management intervention to a psychologist-led cognitive behavioral intervention for distressed patients with cancer and caregivers. We conducted an economic evaluation using data collected within the trial. **Methods:** Adult cancer patients or carers calling cancer helplines scoring $\geq$4 on the Distress Thermometer were randomly assigned to the two interventions. Service use was collected using a resource use questionnaire administered through a computer-assisted telephone interview at baseline, three, six and twelve months. The intervention and service use was costed from an Australian health sector perspective for the 2011/2012 financial year. The AQOL-8D, a multi-attribute utility instrument, was completed by participants at each assessment and used to calculate Quality adjusted life years (QALYs). Incremental cost effectiveness ratios (ICERs) were calculated as the difference in average cost between the interventions divided by the difference in average quality-adjusted life-years. Analyses were stratified based on the baseline score on the Brief Symptom Inventory (BSI) and ICER confidence intervals were calculated with a nonparametric bootstrap to reflect sampling uncertainty. **Results:** No significant differences were found in costs or QALYs between intervention groups. However, bootstrapped results showed that the psychologist led cognitive behavioral intervention had a higher probability of lower cost and greater QALYs for carers (69% of iterations) and patients (58% of iterations) with high distress at baseline ($\geq$63 BSI). For patients with lower levels of distress, the psychologist led intervention appeared cost-effective ($21,000/QALY). The psychologist led intervention was not cost effective for carers with lower levels of psychological distress at baseline. **Conclusion:** Trends indicated the psychologist led, individualised cognitive behavioral intervention may be cost-effective compared to the nurse led, self-management condition for highly distressed cancer patients and carers as well as patients with low levels of distress.

Research proposal: is communication skills training for healthcare workers a suitable strategy to reduce violence perpetrated by patients?

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Background: Workplace violence is becoming increasingly difficult to ignore as it has become a significant problem within the healthcare sector. A very underreported and unsupported group is community workers especially support workers. Previous research suggests that there is a direct relation between the communication style and approach that a care-giver uses in their work to the level of aggression experienced by them from patients. The results of a recent study by Swain & Gale (2014) in New Zealand report a decrease in the experience of aggression following training in Communication Skills ("It's all about Communication") amongst community healthcare workers. **Methods:** The objective of this proposed study is to determine the effectiveness of Communication Skills Training as a strategy to violence reduction among healthcare workers. The hypotheses that will be tested are:

1. "It's all about Communication" will result in increased scores in the Interpersonal Communication Competence Scale.
2. "It's all about Communication" will be superior to the standard de-escalation package when measured by rates of perceived aggression experienced, reduction in distress levels and increase in general mental wellbeing.

A two arm, cluster randomized, single blinded controlled trial will be adopted. The target population is unregistered healthcare workers. The intervention package "It's all about Communication" and control package "Verbal De-escalation" will be group based, fully scripted and structured educational packages that focus on communication skills and de-escalation techniques respectively. The training will consist of four weekly workshops which will include teaching, discussion and DVD illustrative examples. All participants will be asked to complete a brief demographic form, the POPAS-NZ, Kessler-10, Impact of Events Scale and Interpersonal Communication Competence Scale at baseline, end of the intervention, one month, three months and six months post intervention. **Results:** A summary of the literature will be presented to justify the proposed research. **Conclusion:** Despite the emergence of psychological interventions as the first intervention of choice in aggressive situations, there is limited evidence on the effectiveness of de-escalation and communication skills. Hereby, this proposal warrants the need for a controlled trial to determine the effectiveness of Communication Skills Training as a suitable violence reduction strategic measure.

Antidepressants and bone mineral density: a randomised controlled trial

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Background: Epidemiological associations suggesting links between SSRI therapy and adverse effects on bone mineralisation are subject to residual confounding by many social, biological, pharmacological environmental and medical factors. Randomized controlled trials are the most rigorous methodology, yet are very rarely used to study safety rather than efficacy endpoints. The aim of this randomized trial was to compare two SSRI's sertraline and citalopram, a dual reuptake inhibitor venlafaxine, and a nor-adrenaline reuptake inhibitor reboxetine to a control group receiving psychotherapy. The primary endpoint was femoral neck and lumbar spine bone mineral density, and bone turnover markers were secondary endpoints. **Methods:** Participants with major depression (N=188) were randomised to one of 4 antidepressant (sertraline, citalopram, venlafaxine and reboxetine), and there was a non-randomised psychotherapy treated control arm (n =32). At baseline and after one year of treatment, bone mineral density (BMD) at the femoral neck and lumbar spine L1-L4 was measured using Discovery-Hologic dual energy X-ray absorptiometry. Serum 5-HT (serotonin), TNF-α (tumor necrosis factor alpha) and bone turnover markers BGP (bone gla protein), OPG (osteoprotegerin), CTX-I (b-Crosslaps) and RANKL (Receptor Activator for Nuclear Factor-κ B Ligand) were measured. **Results:** Significant loss of bone mineral density at both the femoral neck and lumbar L1-L4 sites was seen in the sertraline and citalopram groups after one year of therapy, but not in the venlafaxine, reboxetine or control groups. Changes in bone turnover markers paralleled the rank order of the BMD findings. **Conclusion:** These data confirm epidemiological suggestions of a noxious effect, of SSRI antidepressants on bone. This suggests the need for recalibration of the risk/benefit ratio of SSRI's and questions the need for BMD screening in this population.

NewAccess – Introducing UK IAPT services to Australia: challenges and achievements

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Background: NewAccess is a beyondblue program funded by The Movember Foundation and beyondblue. It is an early intervention program intended to provide easily accessible, free and quality services for people with mild to moderate depression and anxiety who are currently not accessing mental health services. The result of four years of research and collaborative discussion in Australia it is based on the highly successful UK Improving Access to Psychological Therapies (IAPT) initiative. IAPT is a NHS (National Health Service) program rolled out across England and proven to be a success. NewAccess follows the UK model closely, but has been adapted for the Australian context. **Methods:**. Three Medicare Locals will run a demonstration site from 2013 to 2015 and will be subject to full independent external evaluation. ACT Medicare Local opened on 8 October 2013, followed by North Coast NSW Medicare Local and Central Adelaide and Hills Medicare Local on 24 February, 2014. **Results:** Preliminary data from the three demonstration sites indicates improvements rates higher than seen in the UK IAPT pilot sites. Australian men are showing levels of engagement at higher than expected rates. Criteria for client selection have required significant input to ensure appropraite match between the interventions offered and the target client group. Training and supervision has been successfully adapted to an Australian context. **Conclusion:** Preliminary data from the three demonstration sites indicates NewAccess has significant potential to meet the needs of the Australian population with mild to moderate depression and anxiety who are currently not accessing mental health services.

Randomised controlled trial of integrated CBT and motivational interviewing for comorbid social anxiety and alcohol use disorders

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Background: Social anxiety and alcohol use disorders commonly co-occur, with each condition doubling to tripling the risk of the other. When these conditions do co-occur, they tend to be more severe and respond poorly to standard treatment approaches. Models of social phobia and alcohol use comorbidity suggest these disorders are mutually reinforcing; thus improved treatment outcomes may be observed with an integrated treatment approach. **Methods:** A randomised controlled trial tested the efficacy of a novel approach combining CBT and motivational interviewing to concurrently target social anxiety, alcohol use, and the interconnections between them. Participants (n =117) with comorbid social anxiety and alcohol use disorders were randomly allocated to receive 10 sessions of integrated treatment, or 10 sessions focused on alcohol treatment only. Primary outcomes were social anxiety symptoms assessed by the Social Phobia Scale and Social Interaction Anxiety scale, drinks consumed and number of drinking days, and quality of life assessed by the SF-12. Assessments were conducted at 3 and 6 months post treatment, and assessors were blind to treatment allocation. **Results:** Significant reductions in symptoms of alcohol dependence were found for both groups. The integrated treatment led to superior social anxiety outcomes compared to alcohol treatment alone, with no detriment to drinking outcomes. Greater improvements in overall functioning and quality of life were observed following integrated treatment, and these were sustained at 6 month follow-up. **Conclusions:** Results indicate superior effects for integrated treatment, suggesting people with comorbid disorders are best treated with an integrated treatment response.

e-Mental Health for depression in men: can a brief web and mobile phone intervention reduce depression and improve work and social functioning in men?

Andrea Fogarty[1], Judy Proudfoot[1,3], Erin Whittle[1], Michael Player[1], Kay Wilhelm[2,3], Dusan Hadzi-Pavlovic[1] and Helen Christensen[1]

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[2] *Faces in the Street, St Vincent's Hospital, Sydney, Australia*
[3] *School of Psychiatry, UNSW, Sydney, Australia*

Background: Previous research identified that men experiencing depression do not access appropriate health services at the same rate as women. e-Mental Health programs represent an alternative treatment option for men, with the potential for wide dissemination. However, online programs with content explicitly tailored to men's mental health needs and user preferences are required. **Methods:** Based on mixed-methods research by the Black Dog Institute, a brief web and mobile phone intervention called 'Man Central' was developed for men experiencing mild-moderate depression. A distinguishing feature of the intervention is the incorporation of positive strategies identified by men as being used naturally to manage depression and stress. Design and development were then further grounded in Cognitive-Behaviour Therapy and Problem-Solving Therapy. Men with at least mild symptoms of depression participated in a 4-week pilot study of the 'Man Central' intervention, while simultaneously tracking their moods, symptoms and behaviours. Depressive symptoms, suicidal thinking, externalising symptoms of distress, resilience, and work and social functioning measures were collected at baseline and immediately post-intervention. **Results and Conclusion:** Data analysis is ongoing. Module development and key project findings regarding the effect of the 'Man Central' intervention on men's symptoms of depression, resilience and work and social functioning will be discussed in the context of recommendations and lessons learned for future e-MentalHealth programs.

Adaptions of CBT for increased effectiveness with Aboriginal problem gamblers

Sue Bertossa[1] and Peter Harvey[1]

[1] *Flinders University, Adelaide, Australia*

Background: Addiction to gambling is a recognised mental health condition, with a high association with other related mental illnesses, such as anxiety, depression and substance dependence and misuse. Flinders University and Statewide Gambling Therapy Service have been funded for the past five years to improve access to gambling help services for Aboriginal and CALD groups. A central tenet of the Statewide gambling treatment program is Cognitive Behaviour Therapy (CBT), which has a strong evidence base in the field of addiction and mental health. There is however very limited evidence of CBT being applied to Aboriginal clients. **Methods:** This paper reports on the adaptations made to better suit the needs of Aboriginal clients experiencing problems with gambling, including changes to practice and the changes made at the service delivery level. Cultural insights into problem gambling, developed through a series of collaborative community-based research projects. **Results:** Modifications in the assessment and treatment of problem gambling to be more inclusive of people from diverse cultural backgrounds. Changes have centred on adapting the tools and processes applied at assessment and restructuring client tasks external to treatment sessions. There has been a significant increase in the number of Aboriginal people accessing the service and there has been a marked improvement in the retention of Aboriginal clients, leading to better treatment outcomes in relation to clients' gambling behavior and other mental health indicators. **Conclusion:** Culturally-based adaptions to CBT gambling treatment improves the engagement and outcomes of Aboriginal people experiencing problems with gambling.

Thursday, Leigh Whicker Room, 1035-1150

Lifestyle approaches to mental health: the role of diet and nutrition

Felice Jacka[1,2,3,4], Michael Conlon[5], Lv Wang[6], Michael Sorich[6], Claus Christophersen[5], Jacobus Gerber[6], Manya Angley[6], Mickaela Schelleman[7], Amanda Richdale[8], Paul Amminger[9,10], S. Rice[9,10], I. Hickie[11], D. Hermens[11], Michael Berk[10,12], C. Davey[9,10], A. Ratheesh[9,10], Patrick D. McGorry[9,10], Dorota Zarnowiecki[13], Svetlana Bogomolova[14], Amy Wilson[14], Andrea Fielder[15], Nicholas Procter[15], Catherine Itsiopoulos[16], Kerin O'Dea[15], John Strachan[17], Matt Ballestrin[17], Andrew Champion[17], Natalie Parletta[13]

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[16]*Department of Dietetics and Human Nutrition, La Trobe University, Victoria, Australia*
[17]*Mental Health Directorate, Local Southern Adelaide Health Network, Adelaide, Australia*

Background: The 20th century has seen major shifts in dietary intakes globally, with a marked increase in the consumption of foods high in energy and low in nutrient density. In the last five years, highly consistent data has confirmed an association between diet quality and common mental disorders, depression and anxiety. There is also emerging evidence for the role of nutrients and/or diet in childhood disorders and serious mental illness (SMI). **Methods**: This symposium will provide an overview of current research to investigate these associations and possible biological mechanisms, ranging from the role of gut microbiota, omega-3 fatty acids, dietary intolerance and whole diets in mental health across the lifespan. **Results**: Experts will report evidence of dysbiosis of gut microbes in autistic spectrum disorders and implications for understanding the role of microbes and the gut-brain axis; links between diet and behavior problems associated with ADHD and new research supporting evidence that elimination diets may improve children's behaviour problems; the use of omega-3s for treating major depression and new research currently underway; and outcomes of a program to improve dietary behaviours of people with SMI, who are at high risk for premature mortality from cardiovascular disease. **Conclusions**: This body of work provides compelling multi-level evidence of links between diet and mental health and potential for intervening at a level that may provide more sustainable and empowering options for treatment and prevention – putting forward an urgent call for more research in this area to confirm efficacy, biological pathways and likely responders.

PRESENTER 1

Diet quality and mental health across the lifespan: updates and new directions

Felice N Jacka [1,2,3,4]

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Background: The 20th century has seen major shifts in dietary intakes globally, with a marked increase in the consumption of sugars, snack foods, take-away foods and high-energy foods. At the same time, the consumption of nutrient-dense foods, such as high-nutrient vegetables and raw fruits, is diminishing. In the last five years, highly consistent data has confirmed an association between diet quality and common mental disorders across cultures and age groups. **Methods:** Now that this association is confirmed, three outstanding questions remain: are these associations causal? If so, what are the biological pathways that mediate these relationships? Can we use this new knowledge to prevent and treat common mental disorders? **Results:** Randomised controlled trials are required to establish causality and the first of these is underway. However, two large trials have recently demonstrated prevention of depression using dietary improvement strategies and these will be discussed. Biological pathways include inflammation and oxidative stress, neurotrophins, epigenetic processes. The critical role of microbiota in mediating the relationship between diet and health demands a particular focus. **Conclusion:** The association between diet quality and depression is now established, yet this is just the start. Our ongoing research activities must now focus on developing and implementing prevention and treatment programs utilizing this new understanding. Moreover, much work needs to be done to explicate the biological processes involved in order to identify targets for intervention. New interventions and population health strategies offer much potential in addressing the massive burden of illness associated with mental disorders.

PRESENTER 2

Gut microbiota and autism spectrum disorder

Michael Conlon[1], Lv Wang[2], Michael Sorich[2], Claus Christophersen[1], Jacobus Gerber[2], Manya Angley[2].

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There is growing evidence that the microbes which inhabit the human gastrointestinal (GI) tract have a significant impact on health and some evidence suggests this includes the health of the brain. This understanding has been partly facilitated by a recent rapid increase in knowledge of the composition and activities of gut microbial populations brought about largely by advances in molecular methods. In the large bowel, where most microbes reside, fermentation of undigested substrates such as fibre leads to production of a range of beneficial products, particularly the short chain fatty acids (SCFA), which are important for maintaining the integrity and optimal function of colorectal tissues. The SCFA and other molecules can enter circulation and impact tissues distant to the gut, including cells of the immune system. Microbial products could also influence the brain through neuronal and hormonal mechanisms. Autism spectrum disorder (ASD) is a neurodevelopmental disorder in which both genetic and environmental factors appear to play a role. GI disturbances are often reported in these individuals. We and others have recently demonstrated a dysbiosis of gut microbial populations in ASD, as well as differences in production of SCFA and other microbial products. The presentation will describe these findings on ASD, discuss the potential for treatment of aspects of the disease (especially the GI disturbances) and the implications for these findings in the context of understanding the role of microbes and the GI tract in influencing the brain.

PRESENTER 3

Diet and children's behaviour problems

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[2]*Olga Tennison Autism Research Centre, La Trobe University, Bundoora, Australia*

Background: Parents commonly use diet to improve their child's behaviour, including behaviours associated with ADHD. Various elimination diets are reported to improve behaviour, including the Simplified Elimination Diet (SED), the Few Foods Diet (FFD), and the Feingold Diet (FD). Studies comparing elimination diets with empirically supported treatments are rare. **Methods:** A critique of the diet literature is provided and treatment comparisons with empirically supported treatments for behaviour problems are presented; the latter includes a study by the authors exploring the relative and combined impact of the SED and a Behaviour Parent Training (BPT) program on children's behaviour problems. **Results:** Previous studies suggest that diet can improve children's behaviour. The more restrictive the diet, the greater the response; on average, behaviour improved in 85% of participants completing the SED and 71% completing the FFD improved; FD studies have yielded an average response rate of 51%. A study of 49 children with hyperactive/disruptive behaviour disorder demonstrated a greater response to medication (44%) than to the FFD (24%); the same amount of positive behaviour change was reported for both interventions. The present study supported the existing literature, with scores all 14 children completing the SED falling in the Normal range following intervention; comparatively, only five children scored within the normal range following the BPT intervention. **Conclusion:** Research suggests that elimination diets can improve children's behaviour problems. The FFD has repeatedly been shown to improve children's behaviour, whilst there is some evidence that the SED improves children's behaviour and may be superior to BPT.

PRESENTER 4

The fish oil youth depression study: methodology and rationale of a randomised, placebo-controlled trial

G. Paul Amminger[1,2], S. Rice[1,2], I. Hickie[3], D. Hermens[3], Michael Berk[2,4], C. Davey[1,2], A. Ratheesh[1,2], Patrick D. McGorry[1,2]

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Objectives: Epidemiological data linking fish intake with depression; observations of alterations in the fatty acid status of people with major depressive disorder (MDD); and RCTs of omega-3 PUFAs in adults with MDD, suggest that omega-3 PUFAs may offer a viable treatment and prevention strategy for depression in young people with minimal associated risk. The aim of this presentation is to review the rationale for using omega-3 PUFAs for treating MDD in young people and to present the study methodology and pilot data. **Methods:** The Fish Oil Youth Depression Study aims to investigate the efficacy of 1.4 g/day omega-3 PUFAs (eicosapentaenoic acid, EPA; docosahexaenoic acid, DHA) supplementation for 12 weeks compared to placebo in 300 individuals aged 15-25 years with MDD and moderate to severe depressive symptoms. The total length of follow-up is 6 months. **Results:** Long-chain omega-3 polyunsaturated fatty acids (PUFAs) have been shown to be very safe and are free of clinically relevant adverse effects. They have the advantage of excellent tolerability, public acceptance, relatively low costs, and benefits for general health. **Conclusions:** The Fish Oil Youth Depression Study is the first RCT to examine if omega-3 PUFAs are an effective first-line treatment for moderate-to-severe MDD in this age group.

PRESENTER 5

Changing dietary behaviours in people with serious mental illness: The Helfimed Pilot Study

Dorota Zarnowiecki[1], Svetlana Bogomolova[2], Amy Wilson[2], Andrea Fielder[3], Nicholas Procter[3], Catherine Itsiopoulos[4], Kerin O'Dea[1], John Strachan[5], Matt Ballestrin[5], Andrew Champion[5], Natalie Parletta[1]

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Background: People with serious mental illness (SMI) have 25-30 year higher mortality than the general population due largely to cardiovascular disease. Mediterranean-style diets, characterised by high consumption of vegetables, legumes, olive oil and fish, and low intakes of processed food and red meat, have been associated with better cardiovascular and mental health. A pilot feasibility study (HELFIMED) was conducted to evaluate the effectiveness of an intervention applying Mediterranean diet principles for improving diet in people with SMI. **Methods:** The HELFIMED study was conducted with residents in a Community Rehabilitation Centre, in South Australia. During a 3-month intervention, participants received nutrition education, food hampers, cooking workshops, and shopping support based on Mediterranean diet principles. At 3 months, semi-structured interviews were conducted with ten participants, and ten staff about each participant to evaluate the efficacy of the intervention for changing dietary behaviours. **Results:** Thematic analysis of n=20 interviews found that the HELFIMED intervention improved (1) eating and purchasing habits for increasing olive oil, fruit and vegetable intake, and reducing sugar-sweetened beverage and processed meat intake; (2) cooking skills and confidence in independently preparing meals; (3) social interaction, and (4) food knowledge. **Conclusion:** HELFIMED, a Mediterranean diet-based pilot study, achieved positive changes in dietary behaviours associated with CVD prevention for participants with SMI. Changing dietary behaviours in people with SMI may be feasibly achieved by conducting dietary intervention within existing mental health rehabilitation programs conducted in community health settings.

Axis I and Axis II disorders in young people at ultra-high risk of developing a psychotic disorder: a long-term follow up study.

Anneliese Elizabeth Spiteri-Staines[1], A.R.Yung [1,2], G.P. Amminger[1], S.J. Wood[3], A. Lin[4], E. Li[1], & B. Nelson[1]

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Background: There has been little research into the longer-term pattern of onset and persistence of non-psychotic Axis I disorders in the ultra high risk (UHR) for psychosis population. Most research thus far has been cross-sectional. Furthermore, scarcely any literature addresses the prevalence and impact of Axis II disorders in this population. The current study investigated the comorbidity of non-psychotic Axis I disorders over the long-term (5-8 years since baseline) and Axis II disorders (at follow-up) in UHR individuals. We further examined the association of these disorders on functioning in social and occupational domains. This research will have bearing on the issue of whether the UHR phenotype is a pluripotential syndrome (ie. might evolve into various different disorders) or is more specific to psychosis outcomes. **Methods:** The sample comprised 172 UHR individuals who were previously recruited to research studies at the PACE Clinic, Orygen Youth Health between 2002 and 2006. Axis I and II disorders were assessed using the Structured Clinical Interview for DSM-IV (SCID). UHR status was determined using the CAARMS. **Results:** Interviews were completed with 125 participants at follow up. Analysis of results is underway, with only baseline data currently available for reporting. At baseline, the majority of participants (85%, n=146) met diagnostic criteria for at least one current Axis I non-psychotic disorder at baseline, MDD being the most prevalent (70%, n=122). **Conclusion:** We anticipate that this study will validate previous findings that Axis I comorbidity poses an ongoing problem for those identified as being at UHR for psychosis (Lin et al., 2012). Preliminary data indicates that the majority of UHR individuals suffer from clinically significant non-psychotic disorders. Improved understanding of the relationship of Axis I and II disorders to functional outcomes will inform treatment options and facilitate management of illness in the UHR population.

The longitudinal and intergenerational effects of childhood disaster exposure: how parental wellbeing can shape children's psychological health.

Miranda Van Hooff[1], Ellie R. Lawrence-Wood[1], Amelia K. Searle[1]

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Background: Longitudinal studies examining the impact of disaster exposure in childhood on psychopathology in adulthood report increased rates of post-traumatic stress disorder (PTSD) and other psychopathology. The intergenerational impact of parental disaster exposure in combination with additional lifetime trauma however remains largely unknown. This presentation provides valuable insight into the longitudinal relationship between current DSM-IV disorder in parents and the perceived psychological health of their children. **Method**: Two hundred and sixty-two parents were followed up 28 years following the Ash Wednesday Bushfires in 1983 and completed the Strength and Difficulties Questionnaire on their youngest child. Lifetime trauma (interpersonal trauma and non-interpersonal trauma) and DSM-IV disorder in the parent were examined using the World Mental health Initiative Composite International Diagnostic Interview (WMH-CIDI 3.0). The moderating role of Adult Separation Anxiety Disorder in the parent was also examined. **Results**: Results show a significant association between DSM-IV disorder, adult separation anxiety and the parent's perceptions of the functioning of their children. Interestingly, separation anxiety disorder has greater associations in domains of perceived child functioning that involve peer relationships, while disorder status has stronger associations with emotion problems. **Conclusion**: The implications of these findings in relation to service delivery for both adults and children in the aftermath of a disaster will be discussed.

Supporting weight loss among people with mental disorders using meal replacement plans: a feasibility study

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Background: Overweight and obesity is a major issue among people with mental disorders. There is a small literature on weight loss interventions among individuals with mental disorders, The evidence for the efficacy of these interventions achieving clinically significant weight loss is mixed. Meal replacement plans are increasingly being recommended by health professionals and used in research to support weight loss and weight maintenance in the general population. However, studies have yet to investigate the feasibility or efficacy of using meal replacement plans among people with mental disorders. **Methods:** Participants with a mental disorder were recruited from a community mental health center in Chicago, USA. Following an in-person baseline assessment, participants were provided with a four week supply of meal replacement products and offered four brief, weekly telephone coaching calls. Participants also attended an in-person end-of-treatment assessment. During each coaching call and at end-of-treatment participants were asked about daily frequency of use of meal replacement products and perceived usefulness of the meal replacement plan (not at all – extremely useful). Participants completed the Depression, Anxiety and Stress Scale (DASS-21) and their weight and BMI were recorded. **Results:** A total of 11 participants aged 23-65 years (M= 50.8) were recruited. Participants reported using at least one meal replacement product on an average of 6.5 days per week. Over the course of the study mean BMI decreased from 35.8 to 35.1 and change in weight ranged from -6.8 kgs to +1.4 kgs (M= -2.0 kgs). All but two participants lost weight during the study. For all but one participant, scores on the DASS-21 decreased during the study. Additionally, 40/44 (90.9%) coaching calls were attended. **Conclusion:** Using meal replacement plans as a strategy to support weight loss and weight maintenance is feasible and potentially effective among people with mental disorders.

Thursday, William Magarey East, 1200-1315

Establishing electrophysiological biomarkers for major depressive disorder

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Background: Due to heterogeneous pathophysiology, major depressive disorder (MDD) currently has a low rate of treatment response. To address this issue, the 'biomarker' approach has been proposed as a means of providing treatments that are better targeted. As part of a three year program of research at the University of Wollongong, electrophysiological (EEG) biomarkers for the prediction of treatment response in depression are being investigated. The first phase (2014) involves testing a battery of computerized tasks for reliability and validity in healthy participants. The second phase (2015-2016) will involve using these tasks to investigate electrophysiological differences between healthy individuals and those with a current major depressive episode, as well as to predict treatment response. **Methods:** In the first phase of testing, 64-channel EEG was recorded in response to five computerized experimental tasks in order to assess the reliability and validity of these tests for eliciting electrophysiological biomarkers associated with individual differences in affective processing. The sample consisted of 120 healthy young adult participants. Correlations between these tasks and both Becks Depression Inventory (BDI-II) and the Positive and Negative Affect Schedule (PANAS) were also assessed. The tasks included (i) Emotional Sternberg task, (ii) Intensity Dependence of the Auditory Evoked Potential, (iii) Visual Object Pattern Separation, (iv) Fear conditioning for faces, (v) Affective processing of emotional imagery and startle modulation, and (vi) Spectral analysis of resting eyes closed EEG. **Results:** Preliminary data from the first phase of testing will be presented. Electrophysiological measures that will be discussed include skin conductance response (SCR) and emotional arousal, magnitude of the startle blink and startle P300 in response to aversive imagery, N170 face-specific ERP amplitude change with fear conditioning, time-frequency analysis of emotional interference during a working memory task, left parietal ERP amplitude changes during pattern separation, power spectrum EEG correlates of negative affect, as well modulation of the intensity dependence of the auditory evoked potential with negative affect. **Conclusion:** On the basis of the results from the first phase of testing, the most reliable biomarkers will be selected for subsequent studies in individuals with major depressive disorder during 2015-2016. Hypotheses regarding the alignment of each specific EEG biomarker with different underlying pathologies (including HPA axis dysregulation, neurogenesis deficits and serotonergic dysfunction) will also be explored on the basis of the preliminary findings.

Exercise induced effects on anxiety, cognition, and depression in early adulthood and middle age

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Background: Evidence increasingly suggests central nervous system dysregulation might occur in the context of chronically reduced physical activity, and conversely, that greater chronic exercise might contribute to preventing and treating central nervous system dysregulation and associated stress-induced impairments in cognition and mood. However, the literature contains inconsistencies about the effects of exercise on stress, and a paucity of evidence about exercise induced changes to cognition and mood at different stages of the lifespan. Our research aimed to utilise a mouse model of ageing to investigate the effects of exercise on anxiety-like, cognitive-like and depressive-like behaviours. **Methods:** Two cohorts of C57BL/6 mice were assigned to control or voluntary wheel running groups from 3 months of age (12 weeks) until 4 months (16 weeks/N=22) or 9 months (36 weeks/N=26). Comprehensive behavioural testing assessed anxiety-like, cognitive-like, and depressive-like behaviours. **Results:** Exercise reduced anxiety-like behaviours in older but not younger mice. Four month old exercised mice demonstrated cognitive-like impairment, although this reduced to control levels at 9 months. Similarly, 4 month old mice showed greater depression-like behaviour compared to controls, which was no longer apparent at 9 months. **Conclusion:** Our results provide encouraging evidence of the benefits of long-term exercise for improving anxiety-like behaviour. Exercise appeared to impair cognition and enhance depressive-like behaviour at 4 months of age, although these affects had normalised after prolonged exercise in the 9 month cohort. These findings highlight the importance of investigating the variable effects of exercise on psychiatric phenotypes over the lifespan.

Environmental enrichment and physical exercise: do they affect brain functions differently?

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Background: The beneficial effects of environmental enrichment (EE) with toys and novel objects, or physical exercise (Ex), on brain functions have been well established. Treated rodents have been shown to be more responsive and display diverse behaviour with improved cognitive performance. However, little is known about the distinct effects of short-term EE when used alone and in combination with Ex on cognition, exploratory, social, anxiety- and depression-like behaviours in young and middle aged mice. **Methods:** C57BL/6 mice, 3 and 8 month old, were housed for one month in cages with either toys and novel objects to act as EE, an exercise wheel for voluntary exercise, a combination of the two, or with standard housing as a control. At the end of this period (aged either 4 or 9 months), behavioural battery was undertaken to measure various types of behaviour. **Results:** At both 4 and 9 months of age, there were no significant differences in distance travelled in the Open Field for any of the experimental treatments when compared with control mice. Ex showed an increase in depressive-like behaviour at 4 months, with increased immobility time on the FST ($p=0.0038$), and impaired cognition, with higher latencies to find the escape box in the Barnes Maze ($p<0.05$). EE significantly reduced depressive-like behaviour on the FST at 9 months ($p=0.022$), and also appeared to reduce anxiety, with a trend for more time spent in the novel arm on the Elevated Zero Maze. **Conclusion:** At 4 months of age, Ex mice showed impaired cognition and increased depression-like behaviour. EE was able to reduce depressive-like behaviour and also appeared to reduce anxiety. Further experiments on 13 months old mice and with longer duration of EE are required to fully elucidate the beneficial effects of EE and Ex on brain.

A model of continuous life stress in mice: assessment of the role of neuro-endocrine-immune mechanisms in adult behaviours

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Background: The effects of early life stress (ELS) are diverse and often detrimental to the health of the individual. However, little is known about the neuro-immune alterations due to ELS. In this study, the effect of maternal separation (MS), early weaning (EW) and adolescent unpredictable-chronic mild stress (uCMS) were examined in regards to the behavioural, neuroendocrine and neuro-immune systems. **Methods:** C57BL/6 wild-type pups were randomly separated into 7 groups ($n=10$/group) having 0, 1, 2 or all 3 following stressors. The three stresses administered to the pups were MS (post natal day (PND) 1-17), EW (PND 14-28), and uCMS (PND 30-50). Behavioral tests, open field test (OFT), elevated zero maze (EZM) and forced swim test (FST) were conducted measuring exploration, anxiety and depression –like behaviour. Corticosterone levels will be measured by ELISA, while pro and anti –inflammatory markers, and neurotransmitter receptors gene expression will be measured by qPCR. **Results:** Increased exploration was observed in 2 hit stress mice compared to controls ($p<0.0001$), suggesting hyperactivity –like behaviour in both OFT and EZM. 2 hit stress and all stress groups also displayed significantly altered anxiety–like behaviour ($p<0.0001$) in OFT and EZM. The 2 hit stress and all stress groups displayed depression –like behaviour with least total distance travelled ($p<0.001$) and a trend for higher immobility in FST. Measurements of corticosterone levels, expression of immune/neurotransmitter receptor genes are currently ongoing. **Conclusion:** These results suggest that early stresses such as MS and/or EW increase the susceptibility to future stressors such as uCMS at adolescence. This is reflected in the increased exploration, anxiety and depression –like behaviour in early adulthood.

The effects of 'lifestyle choices' on a mouse model of schizophrenia – a preclinical perspective

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Background: Around half the people suffering from schizophrenia are obese or overweight and are twice as likely to develop metabolic syndrome as the general population. Poor dietary choices appear to be a key factor in the development of obesity in schizophrenia patients and are likely to be exacerbated by limited exercise and side effects of antipsychotic medication. Poor diet has been found to have negative consequences on the mental state of these patients. On the other hand, there is limited evidence that diet and exercise can have beneficial, therapeutic-like properties for schizophrenia. **Methods:** In a pilot experiment we investigated the effects of 6-week high fat high sugar diet (HFHS) on schizophrenia-relevant behaviours in mice mutant for the schizophrenia risk gene *neuregulin 1 (Nrg1)*. We also tested if *Nrg1* mutant mice are susceptible to the beneficial effects of voluntary physical exercise [i.e. 6 weeks of permanent access to running wheels (RW)]. **Results:** HFHS triggered an earlier onset of hyperlocomotion in 3-month old *Nrg1* mutants, which is typically not observed before the age of 5 months. On the other hand, HFHS reversed cognitive deficits in *Nrg1* mutant mice, which is typically a characteristic of these mice when fed a control diet. Physical exercise had beneficial properties in the schizophrenia mouse model, as RW access reversed the established and widely published hyper-explorative phenotype. **Conclusions:** Our research provides first 'proof of principle' that HFHS can have detrimental OR beneficial effects on particular schizophrenia-relevant endophenotypes and that *Nrg1* may modulate the effects of HFD. Furthermore, RW access can ameliorate schizophrenia-relevant endophenotypes suggesting a therapeutic-like effect of exercise.

Health behaviours in people with severe mental illness across four countries – comparison with normative sample

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Background: Physical health is inextricably linked with mental health. Accordingly, people with severe mental illness (SMI) have poorer physical health and higher all-cause mortality than the general population. We investigated various health-related lifestyle factors in people with SMI across four countries and compared with a normative sample. **Methods**: Demographic and health behaviour data were collected from N=697 people with mental illness in Germany (n=387), Middle East (n=200), London (n=67) and Australia (n=43). Data analysis was conducted using one-sample t-tests with N=666 people who had substance abuse disorder (n=224), schizophrenia (n=158), mood disorders (n=227) and somatoform disorders (n=63). The General Health Behaviour Questionnaire included behaviours and knowledge related to nutrition, physical activity, alcohol, smoking, medication, sleep, and general wellbeing and life satisfaction. The normative sample was derived from a German population (N=495). **Results**: The whole sample had significantly lower intake of healthy foods/drinks ($p<.001$) and higher intake of unhealthy foods ($p<.001$), no significant difference in exercise levels or alcohol, smoked less cigarettes, had less hours sleep per night ($p<.001$) and reported more sleep problems ($p<.001$). They reported significantly reduced life satisfaction ($p<.001$), wellbeing ($p<.001$), and higher dissatisfaction with the perceived impact of their problems on their health ($p<.001$). Their knowledge regarding the impact of lifestyle on health was significantly lower for nutrition ($p<.001$), physical activity ($p<.001$), and smoking ($p<.001$). **Conclusions**: Health-related lifestyle factors and education present an important and empowering target for primary care of people with enduring mental illness. Targeting people at risk for mental illness also presents an opportunity for prevention. Further research needs to identify the degree to which these lifestyle factors contribute directly to poor mental health in this population.

Does sponsorship still matter – a sub-analysis from a systematic review

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Background: Over the last decade there has been an increased emphasis on conflicts of interest and declaring such, driven by a concern that such sponsors may cause bias in the design, implementation and reporting of clinical trials. To our knowledge, the effect of such bias has not been examined systematically in anxiety disorders. As part of a Cochrane project, we had identified RCTs that compared benzodiazepines to placebo and thus a post-hoc analysis as to if sponsorship affected outcomes was performed. **Methods:** We used a dataset extracted from the Cochrane Register of Controlled trials that has been described elsewhere (1) Data from 56 identified papers was extracted from Revman and entered into Stata to post hoc logistic regression to estimate the effect, using odds ratios, that (a) sponsorship (b) place of study for had for the three primary outcomes: response rate, number of drop outs, and mean change in HAM-A, **Results:** We identified 56 papers. Some papers had multiple benzodiazepine arms, and each comparison arm was compared to placebo separately. We found 71 comparisons: for 28 of these comparisons we were not able to ascertain the sponsoring agency. **Response Rate:** There was not significant difference between sponsorship groups 24 comparisons OR 0.31, 95% CI (0.01—9.65) Of one removed the unknown sponsorship and compared sponsorship between benzodiazepine manufacturers and manufacturers of other medications, there was no significant difference. 20 comparisons, OR 0.38 (0.007 –10.76) **Dropouts**: There was no significant difference in change in dropout rate between sponsorship type 64 comparisons, OR 1.63, (0.58 –4.56). When we removed those papers where we could not ascertain sponsorship, we could not find any significant difference (43 comparisons, OR 0.40 (0.03 –4.88) **Change in HAM-A.** There was no difference between sponsorship groups (71 comparisons, OR 1.95, 95% CI 0.25 –14.9) Removing the papers where sponsorship was unknown did not lead to a significant difference between each study group, but the amount of variation between studies was minimal (R^2=0.02) that odds ratios could not be estimated. **Conclusion:** We suggest that the effect sponsorship has on results in the published literature may be overstated. However, this is a post hoc analysis, and has to be considered in that light. However, it used a reasonably large and systematically collected dataset. Replication of this analysis in from other systematic reviews would be useful.

References: 1. Gale C, Herbison GP, Glue P, Coverdale J, Guaiana G. Benzodiazepines for generalised anxiety disorder (GAD) (Protocol). Cochrane Database of Systematic Reviews 2012, Issue 11. Art. No.: CD001846. DOI: 10.1002/14651858.CD001846.pub3.

Translation of e-mental health programs: development of the mental health Call for Action for the National Health and Medical Research Council

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Background: There have been rapid developments in online programs for the identification, prevention and treatment of mental health problems, with e-mental health services shown to be highly effective, efficient, scalable and cost-effective. However, e-mental health services largely exist independently of traditional service settings. Greater uptake of e-mental health programs in clinical and community settings may be key in reducing the burden of depression and other mental health problems. Translation of e-mental health programs was the Call for Action topic selected by the Mental Health Steering Group of the NHMRC Research Translation Faculty. **Methods:** The Call for Action reviewed models of e-mental health service delivery and identified barriers and enablers of implementation based on reviews of the literature and expert input. **Results:** Recommended actions to increase uptake and integration of e-mental health programs include development of policy statements to endorse, promote and resource e-mental health programs, development of e-mental health accreditation systems, and promotion of greater translational research to test models of translation, identify optimal referral pathways, and test the components of e-mental health programs that are most suitable for encouraging uptake. **Conclusion:** Despite a strong evidence base for the effectiveness of e-mental health programs, there is a need for a translational framework to increase adoption of these programs in the community. The Call for Action will serve as a guide for translational e-mental health research over the next decade.

Mental health in fathers with very young children: what role does job quality play?

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Background: It is now well established that adverse psychosocial job conditions are associated with poor mental health. This may be especially the case for men with very young children, as they negotiate competing demands in both their work and family lives. The present study contrasts the mental health impacts of adverse psychosocial job characteristics on three types of men: non-fathers, fathers with children aged less than one, and fathers with children older than one. **Methods:** Three waves of data collected from the PATH Through Life Survey were analysed. Men were aged 24-28 at time 1, 28-32 at time 2, and 32-36 at time 3. Across the three time points there were 209 occasions when men were fathers of young children (<1 year), 590 occasions when men were fathers of older children(>1 year), and 1637 occasions when men were not fathers. GEE models examined the average associations between adverse psychosocial job quality characteristics (job demands, job autonomy and job insecurity) and symptoms of depression and anxiety, for each of the different fatherhood categories. **Results:** Psychosocial job adversity was associated with greater symptoms of depression and anxiety for all types of men (regardless of fatherhood status). There was no indication than men who fathers of very young children experienced poorer mental health as a consequence of poor job quality, than men with older children or men who were not fathers. The analyses controlled for a number of important potential confounders (e.g. marital status, education levels, financial problems, negative life events, physical health, alcohol use and neuroticism). **Conclusion:** The negative impacts of poor quality work appear to be ubiquitous to all men, and are not magnified for men with very young children. The findings of this study continue to highlight the importance of secure jobs, with reasonable levels of autonomy and demands.

The longitudinal impact of job strain on mental health and wellbeing

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Background: Job strain is associated with poor mental health outcomes and can have adverse effects on work productivity. We examine the impact of job strain on mental health and wellbeing outcomes using a mid-life age cohort who were followed for up to 12-years, utilising a multi-dimensional wellbeing model that incorporates clinical measures of mental health with positive and negative dimensions of psychological wellbeing. **Methods:** Participants were from the Personality and Total Health (PATH) Through Life Project, a large community survey from Canberra and Queanbeyan, Australia that comprises three age cohorts (aged 20-24; 40-44; 60-64 years at baseline) who were surveyed up to four times every four years. Results presented here concern the mid-life cohort only (baseline n = 2350). **Results:** Multi-level modelling indicated strong associations between proximal mental health and job strain. Those at greatest risk of reporting minor and major depression were those in High Strain and Passive jobs. However, job strain did not place individuals at long-term risk of poor mental health. In contrast, other wellbeing indicators were consistently associated with job strain in both proximal and distal analyses. Those in Passive and High Strain jobs reported lower life satisfaction, mastery, resilience, and positive affect, and higher levels of negative affect. Closer examination of change in job strain status with change in mental health indicated that moving from to a High Strain job was associated an increased likelihood of sub-syndromal depression only, and higher levels of negative affect, and lower levels of positive affect, mastery and resilience. Change in job strain was not associated with life satisfaction. **Conclusion:** These results emphasise the importance of discriminating between related clinical and non-clinical dimensions of employee wellbeing. Further analyses needs to consider the impact of cumulative job strain as risk factors for poor health outcomes.

Self-harm, psychotic symptoms and substance use in young offenders

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Background: Rates of self-harm, psychosis and substance use are all elevated in adult offender populations; however, less is known in relation to young people in contact with the criminal justice system. We investigated the prevalence and correlates of self-harm, psychotic symptoms and substance use in 515 young offenders serving community-based orders (CBOs; n = 242) or custodial sentences (n = 273) in Victoria, Australia. **Methods:** Structured face-to-face interviews were conducted with 515 young offenders (mean age: 17.3 years, *SD*=1.7). Psychotic symptoms were assessed using a previously validated screening measure, with scores ≥3 indicative of psychotic disorder. **Results:** 16% of participants reported self-harming in the previous six months and this was more common among those serving custodial sentences than those serving CBOs (19.4% vs. 12.4%). 24% of participants who had self-harmed reported having done so with suicidal intent. Self-harm was associated with recent bullying victimization, prior expulsion from school, past year violent victimization, cannabis dependence and past-year risk-taking behaviour. 13% of participants screened positive for psychosis and these participants were more likely than those who screened negative to: have unstable housing; have been expelled from school; have a family history of substance use or mental health problems; screen positive for depressive symptoms and have been forced previously to have sex. Screening positive for psychosis remained significantly associated with amphetamine and sedative dependence, daily cannabis use and daily sedative use after adjustment for possible confounders. **Conclusion:** Young offenders are a vulnerable group with high rates of self-harm, psychiatric morbidity and substance use problems. Our findings highlight the importance of coordinated AOD and mental health treatment, delivered both within – and during the transition from – the youth justice system.

A needs assessment to improve mental health among vulnerable youth in Out-of-Home Care

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Background: Young people in out-of-home care (OoHC) have typically experienced trauma and disadvantage and have poor mental health outcomes during and after leaving care. The Ripple project is a five-year NHMRC-funded study that aims to enhance the therapeutic care capacities of carers and staff. The first stream of work assesses the mental health support needs of young people aged 12-17 years, and their carers and case managers. It also included a census of the numbers of young people in care in two regions of Melbourne, with a focus on diversity and Indigenous youth. **Methods:** A mixed-methods approach was taken to the needs assessment. Qualitative data was collected using focus groups and interviews with youth, carers and case managers with specific focus on recruiting youth who identify as Indigenous and culturally diverse. Thematic analysis techniques derived major themes for each group. Descriptive statistics were generated from the census data analysis. **Results:** Young people expressed needs for carers and staff with good communication skills and ability to build relationships. Carers sought help with interacting with disturbed and traumatized youth, navigating the mental health system and assistance with stigma, shame and discrimination. They also sought early intervention for young people and themselves. Staff recognized the need for support in working with carers and youth with background of severe adversity and unstable placements. **Conclusion:** This research is the first systematic assessment of the mental health needs of youth, carers and staff in OoHC. This needs assessment is being used to help develop a mental health intervention to enhance the capacity of carers and staff to support vulnerable young people and intervene early in case of need for mental health care. The Ripple intervention will be tailored to the needs of OoHC agencies to ensure the sustainability of mental health support for this group.

Delayed sleep onset in depressed young people

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Background: The circadian abnormality of delayed sleep phase has been suggested to characterise a subgroup of depressed young adults with different risk factors and course of illness. We aim to assess the prevalence and factors, particularly substance use, associated with such delay in a cohort of depressed young people. **Methods:** From a consecutively recruited sample of 802 help seeking young people, 305 (38%) had at least moderate depressive symptoms (QIDS-C16 >10), sleep data and did not have a chronic severe mental illness. Demographic and clinical characteristics were evaluated through self report and clinical interview. Delayed sleep phase was defined as a sleep onset between the hours of 02.00 – 06.00 and the characteristics of this group were compared to normal phase sleepers. **Results:** Delayed sleep onset was reported amongst 18% ($n = 56/305$) of the depressed group compared to 11% of the non depressed young people. Amongst the depressed group, delayed sleep onset was associated with tobacco, alcohol and cannabis misuse and short sleep duration (M: 5.8 hrs vs. M: 7.8 hrs). There were no differences in demographic factors, personality traits or symptoms. Tobacco smoking was very common: In logistic regression analyses only tobacco use (OR 2.28, 95% CI: 1.04 - 5.01) was associated with delayed sleep onset. There was no interaction with age. **Conclusion:** Delayed sleep was twice as common in depressed young people as the general population and young people with other mental health problems, and is a potential marker for a subgroup of mood disorders. Those with delayed sleep onset were not more severely depressed but had short sleep duration, a risk for chronic psychological ill health, and higher levels of tobacco use. Nicotine use was common in this group, has biological evidence as a sleep disrupter, and requires specifically addressing in this population.

Design of e-mental health technologies - impact of participatory methods

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More than a quarter of young Australians (aged 16-24) have experienced a mental illness in the last 12 months. Anxiety, substance abuse and mood disorders are most common, with three quarters of first episode mental illness occurring before the age of 25. Alarmingly, 70% of young people are not accessing the professional help that could benefit them. The literature contend that this disengagement with services results, in part, from traditional service models of face-to-face, business hours delivery that fail to match the complex needs of today's youth. Translational research is required to realise the potential of technology to increase youth engagement with formal mental health services. This may be particularly relevant in rural and remote contexts where service options are frequently limited. The evidence base concerning the development and use of technology in formal youth mental health services is sparse and lacks rigor. Thus the current systematic review explored participatory research, a methodology commonly used in technology-based design, and its application in mental health research to develop technology-based interventions aimed at improving youth mental health and wellbeing. Five electronic databases relevant to the field were searched along with Google Scholar. Grey literature was sourced via the Google search engine. Relevant citations were also found in reference lists and from notable authors. No date restrictions were placed on searching. The title and abstract of over 5000 citations were screened for relevance by two reviewers via application of inclusion criteria, and a final 20 were taken to full text review. 15 studies were included in the final analysis. Evaluation criteria related to the project, research process and outcomes were extracted from existing participatory research literature and adapted for the purposes of the review. Based on the information available (which included published papers, grey literature and email correspondence) major themes were extracted and discussed. Overall, participatory research methodologies, most often User Centered Design and Participatory Design, were predominantly employed for consumerist rationales that prioritise acceptability and usability of the intervention. End user participation tended to be greatest in health promotion intervention projects compared to those involving clinical or support-based interventions. A minority of interventions developed have proceeded to implementation, involve capacity building and learning for end users and employ theory to support design of the intervention. Moreover, end user input was deemed important to good intervention design in the majority of projects. The review then makes practical recommendations for e-mental health technology designers wishing to employ participatory research methods.

The transition and wellbeing research program: investigating the mental, physical, social and biological health of serving and ex-serving Australian Defence Force (ADF) personnel

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Background: The Transition and Wellbeing Research Program, comprising three specific studies, will examine the impact of military service on the mental, physical social and biological health of serving and ex-serving ADF personnel to ensure policy and service delivery is responsive to future needs. **Methods:** The three studies are described below. The Health and Wellbeing Study will provide a comprehensive picture of the mental health and wellbeing of approximately 30,000 serving and ex-serving personnel. A two-phase design (comprising screening questionnaires and diagnostic interviews) will generate prevalence estimates of lifetime, 12-month and 30-day mental disorder. The trajectory of disorder and pathways to care for personnel previously diagnosed with a mental disorder will be examined, as will veterans' use of technology for health problems. The Reservists Study will examine the prevalence and predictors of mental health and wellbeing in approximately 5000 *ab initio* reservists (i.e., those who have never undertaken regular service). The mental health of reservists will be compared with that of regular-serving personnel, and service-related predictors of any differences between these two groups (e.g., deployment , unit cohesion, access to benefits) will be examined. The Impact of Combat Study is the third follow-up of all 1871 personnel who deployed to the MEAO during 2010-2012 and participated in the Middle East Area of Operations (MEAO) Prospective Health Study. Analyses will examine the longitudinal trajectory and predictors of various health outcomes, and pathways to care. This study will also examine the neurocognitive and biological profiles of personnel who were engaged in high-risk roles and experienced high levels of deployment-related trauma. **Conclusion:** Results from this program of research will provide the Departments of Veterans' Affairs (DVA) and Defence with robust information about the problems and needs of contemporary personnel and veterans, with important implications for mental health surveillance, education, and intervention services.

The information needs of Australian health professionals providing mental health or substance use treatments

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Background: Closing the gap between healthcare research and practice is becoming an increasing research, funding and policy priority; especially within mental health and substance use settings. However, to date, few initiatives aiming to optimise dissemination and implementation of gold-standard treatments into these health settings appear successful, sustainable and scalable. This failure to translate research evidence into practice may be due to a fundamental gap in knowledge about the needs, available resources and typical practices of the health professionals tasked with delivering these treatments. This scoping study aimed to identify the typical information consumption patterns and perceived information needs across Australian health professionals assessing, managing or treating people with mental health or substance use concerns. **Methods:** A mixed-methods approach, including both quantitative and qualitative methods, was used to identify key themes, attitudes and needs using an anonymous online survey. More than 200 Australian practitioners from various health professions responded to the survey, providing responses to a structured measure of attitudes towards research and up to eight open-ended questions. Descriptive content analyses were used to identify themes related to the types of information used in practice, patterns of information seeking, methods for resolving discrepancies between information sources and enhancing the uptake of research in practice. **Results:** Outcomes from thematic analyses highlighted a diversity of information seeking practices and perceived needs both within and between health professions; however, the importance of peer consultation was frequently identified. Barriers of cost, time, accessibility and suitability of current research translation initiatives were raised; with different solutions proposed by different health professionals and across different work settings. **Conclusion:** Initiatives to resolve practical barriers currently limiting efficient access to relevant research information are likely to be central to improving dissemination and implementation of mental health and substance use treatments in Australia.

Neighbourhood characteristics and the incidence of first episode psychosis (FEP) and duration of untreated psychosis (DUP)

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Background: The incidence of psychotic disorders varies between geographical areas and it is hypothesized that neighbourhood level factors such as social deprivation, fragmentation, population density and social capital may influence this variation. The aims of this study are to determine whether the incidence of FEP and the DUP are associated with the level of social deprivation, fragmentation and population density at the neighbourhood level. **Methods**: All individuals with a FEP from a geographical defined catchment area assessed by the DETECT Early Intervention Service over a five year period between 2006 and 2011 were included. Social deprivation was measured using the HP Index, indexes of social fragmentation were obtained from census data and volunteering participation was used as a proxy measure of social capital. **Results:** 292 cases of FEP were included in the study and 57% were male and 45% had a diagnosis of a schizophrenia-spectrum disorder. The standardized incidence rate of FEP ranged from 72.38 per 100,000 person years (95% C.I. 26.42 – 162.68) in the most deprived areas to 21.46 (95% C.I. = 17.56 – 26.00) in the most affluent area, indicated nearly a 3.5 fold increase in incidence in the most deprived (Rate ratio = 3.43, 95% C.I. 1.59 – 7.45, $p<0.01$). The incidence of FEP did not vary according to the level of population density, social fragmentation or social capital. The median DUP was 4.0 months (I.Q.R 1 month, 18.5 months) and the DUP was not associated with the level of social deprivation, social fragmentation, population density or social capital in the area of residence. **Conclusions:** Social deprivation is strongly associated with the incidence of psychotic disorders however the DUP does not appear to be influenced by neighbourhood level characteristics.

Predicting emotional vulnerability at age 5 using population-level perinatal information: a data linkage study

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Background: Intensive support services can be provided to families and children who are deemed 'at risk' of developmental problems. One of the main barriers to offering support services is accurately identifying as early as possible the children who are most at risk of future problems, and who have the most to gain from intensive support. This study aimed to determine whether universally-collected perinatal information could be used to determine entry into support services, by examining whether perinatal information can predict emotional vulnerability in later childhood, at age 5. **Methods:** South Australian data from the 2009 AEDI census were linked to universally-collected perinatal administrative data for 13657 children (with 10311 having full data on all variables). Children whose scores on the AEDI emotional maturity subscale were in the lowest 10% of the Australian population were considered emotionally 'vulnerable'. Several indices of predictive ability were calculated, including the Area Under the Receiver Operating Characteristic (AUROC) curve, sensitivity, and specificity. **Results:** At age 5, 3.9% of females and 14.9% of males were considered emotionally 'vulnerable'. A set of 6 perinatal risk factors (mother's and father's occupation, mother's age at birth, smoking during pregnancy, area-level socioeconomic disadvantage, and geographic region) demonstrated a fairly low overall discriminatory ability (AUROC .63 for males, .64 for females). If this model was used to target children and families with 3 or more of these risk factors for intensive services, then approximately 15% of the population would need to be offered services. This intervention model would have the potential to prevent 1 in 4 cases of emotional vulnerability. **Conclusion:** Given that age 5 emotional vulnerability is currently unable to be predicted well at birth, policy-makers and service providers will need to consider whether such prediction models represent useful screening tools, and if so, which cut-offs best meet their needs.

Major depressive disorder, use of antidepressants and bone mineral density (BMD)

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Background: Depression appears to be a risk factor for low bone mineral density (BMD) and fragility fracture as a consequence of disease and/or medication-related processes. We aimed to further clarify the association between depression, antidepressant use and BMD in a population based sample of men (n=928; age 24-98yr) participating in the Geelong Osteoporosis Study. **Methods:** Lifetime history of major depressive disorder (MDD) was ascertained by clinical interview (SCID-I/NP). BMD was measured at the PA-spine, hip, total body and forearm using dual energy absorptiometry (Prodigy Pro). Anthropometry, socio-economic status (SES), medication use and lifestyle factors were determined. Linear regression was used to test the associations, after adjusting for potential confounders. **Results:** A total of 84 (9.1%) men met criteria for a single MDD episode, 50 (5.4%) had recurrent episodes and 65 (7.0%) were using antidepressants at the time of assessment. After adjustments, recurrent MDD was associated with lower BMD at the forearm (B=-0.02, *P*=0.03) and total body (B=-0.03, *P*=0.03) and tended to be lower at the spine (B=-0.05, *P*=0.12) and hip (B=-0.03, *P*=0.17). Weight was an effect modifier in the relationship between use of antidepressants and BMD, such that antidepressant use was associated with lower BMD at all sites in men with lower body weight. The use of antidepressants had greater impact on bone than MDD status. **Conclusion:** Recurrent MDD and use of antidepressants were independently associated with lower BMD, with the latter seemingly having a greater impact on bone. This is yet another piece of evidence to support depression and antidepressants having a deleterious effect on bone and raises the issue of monitoring bone health in psychiatric patients.

Thursday, Leigh Whicker Room, 1200-1315

Symptom screening scales for detecting major depressive disorder in children and adolescents: a systematic review and meta-analysis of reliability, validity and diagnostic utility

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Background: Depression symptom screening scales are often used to determine a clinical diagnosis of major depressive disorder (MDD) in prevention research. The aim of this review is to systematically examine the reliability, validity and diagnostic utility of commonly used screening scales in depression prevention research among children and adolescents. **Methods:** We conducted a systematic review of the electronic databases PsycINFO, PsycEXTRA and Medline examining the reliability, validity and diagnostic utility of four commonly used depression symptom rating scales among children and adolescents: the Children's Depression Inventory (CDI), Beck Depression Inventory (BDI), Center for Epidemiologic Studies – Depression Scale (CES-D) and the Reynolds Adolescent Depression Scale (RADS). Data were pooled in MetaXL using the inverse variance heterogeneity model. **Results:** We identified 54 studies (66 data points, 34,542 participants). Across the four scales, internal reliability was 'good' (pooled estimate: 0.89, 95% Confidence Interval (CI): 0.86 to 0.92). Sensitivity and specificity were 'moderate' (sensitivity pooled estimate: 0.79, 95% CI: 0.69 to 0.88; specificity pooled estimate: 0.80, 95% CI: 0.72 to 0.87). For studies that used a diagnostic interview to determine a diagnosis of MDD, positive predictive power for identifying true cases was low (pooled estimate: 0.30, 95% CI: 0.11 to 0.51). Diagnostic accuracy was moderate (0.86, 95% CI: 0.79 to 0.92). No differences were identified between the four scales. **Conclusion:** Commonly used depression symptom rating scales are reliable measures of depressive symptoms among adolescents; however, using cutoff scores to indicate clinical levels of depression may result in many false positives.

The clinical and diagnostic relevance of the information that children report during semi-structured clinical interviews

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Background: When children require mental-health services, clinicians need to conduct assessments that are developmentally-sensitive, multi-modal, and multi-informant; these assessments generally include an interview with the child who is the subject of the assessment. Although researchers and clinicians generally agree that it is beneficial to hear a child's account of his or her symptoms and presenting issues, there is ongoing debate regarding whether children are able to provide reliable or valid clinical information about themselves. Here, we investigated whether children can provide clinically-valid, and diagnostically-valid information that is consistent with their presenting problems and eventual diagnosis. **Methods:** A total of 33 5- to 12-year-old children who had been referred for a mental health assessment were interviewed about their clinical difficulties using a semi-structured interview. The clinically-relevant information that children provided was coded in two ways, to determine: 1) the congruence of the information that the child provided with the presenting problem under discussion, and 2) the congruence of the information that the child provided with the subsequent clinical diagnosis made by the clinician at the completion of the mental-health assessment. **Results:** During the interviews, children primarily reported clinically-relevant information (86%). Most of the information that children reported was congruent with the initial problems that were discussed (84%), and with the eventual diagnosis that they received (74%). Overall, children reported very little incongruent information, or information that conflicted with their presenting problems or eventual diagnosis. **Conclusion:** During a semi-structured clinical interview, children can provide valuable, relevant, and valid information about their clinical difficulties. Future research will help to elucidate the unique contribution that children's free-recall reports have during psychological assessments.

Emotional and behavioural problems and academic performance in 8-9 year old children

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Background: Poor academic performance is associated with a range of negative outcomes including school drop out and higher rates of unemployment. Whilst there is evidence that children with attention deficit/hyperactivity disorder (ADHD) are at risk of poor academic performance, studies examining associations between emotional problems and academic performance are scarce. Furthermore, there is a focus on clinical samples, with weak measures of academic performance. The aim of this study was to examine associations between mental health and behaviour problems with a national assessment of academic performance, together with teacher ratings, in a large community sample of grade 3 students. **Methods:** The Childhood to Adolescence Transition Study recruited 1239 8-to-9-year-olds and their parents in Melbourne, Australia. Academic performance was measured by students' NAPLAN results. NAPLAN is a nationwide programme, which assesses the following domains: reading, writing, spelling, grammar and punctuation, and numeracy. Teachers also reported on a global rating of English and Maths. Parents reported on their child's emotional and behavioural problems using the Strengths and Difficulties Questionnaire. **Results:** Emotional problems (β=-3.91, 95% CI: -6.08 to -1.75), conduct problems (β=-6.93, 95% CI: -9.40 to -4.46), hyperactivity/inattention (β=-7.45, 95% CI: -9.11 to -5.79) and peer problems (β=-6.37, 95% CI: -8.69 to -4.06) were associated with poorer overall academic performance on NAPLAN. Similar patterns were also observed when examining teacher ratings of academic performance. There were sex differences in the patterns of association, with patterns stronger for boys. **Conclusion:** Emotional problems, as well as behavioural problems, were associated with poor academic performance in late childhood particularly for boys. Our results suggest that identifying individuals with emotional or behavioural problems, and targeting a range of mental health and behaviour problems in future interventions may be important in improving academic outcomes.

Are sipping and drinking different? Parents, peers, and behaviour

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Background: Existing research investigating the predictors of adolescent alcohol consumption has focused on mid- to late-adolescent samples. Longitudinal research has not investigated the prospective effects of parenting practices, peer influences or problem behaviours on early adolescent sipping and drinking as distinct consumption quantities. This paper aims to disentangle quantities of early adolescent alcohol consumption in relation to parenting practices, peer influences and problem behaviours. **Methods:** A total of 1,823 parent-child dyads completed surveys at T1. Of these, 1,729 dyads also completed follow-up surveys at T2, resulting in a low attrition rate of 5.2%. Dyads were recruited across 49 Australian secondary schools (T1 M adolescent age: 12.4, SD=0.6). Using planned univariate and multivariate multinomial logistic regressions, T2 abstention, sipping and drinking were tested on a range of T1 parenting practices, peer influences, and problem behaviours. Results: Alcohol consumption was relatively low. At T2, 25.2% of adolescents reported sipping, while only 7.8% reported drinking. Univariate analyses found that compared to abstainers, T2 sippers and drinkers were more likely to report T1 parental provision, substance-using peers, and externalizing problems. Conversely, T2 sippers and drinkers were less likely to report strict T1 parental alcohol-specific rules, monitoring and peer substance use disapproval. T2 sippers were also more likely to report increased T1 parental alcohol consumption and home alcohol access. In the multivariate model adjusting for all T1 covariates, only T1 parental provision, parental alcohol-specific rules, monitoring, substance-using peers and externalizing problems remained significant. **Conclusion:** The present results demonstrated the prospective importance of parental provision, strict alcohol-specific rules, substance-using peers and externalizing problems in early adolescent alcohol consumption one-year later. Additional differences between sippers and drinkers were evident in relation to home alcohol access, substance-using peers, and externalizing problems. The present longitudinal analyses demonstrated that sipping is an independent adolescent alcohol quantity from abstention and drinking.

The science of social media

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Background: The last two decades have witnessed the creation of websites to treat or prevent chronic health conditions, the development of apps and persuasive devices, such as fitbits, to monitor and manage, and the emergence of health systems and translational research to integrate ehealth into new or traditional models of care. However, the last half-decade has seen a new idea emerging, namely, that social media is an opportunity to influence health attitudes and behaviour in a way previously not thought possible. This paper examines new research in this area, and explores the potential of this technology for health promotion and behavioural change. **Methods:** Literature review, observational and validation studies, use of mobile phone technologies. **Results:** New methods create descriptive approaches that do not sit with typical hypothesis testing/mechanistic approaches; Big data social media reflect population based prevalence rates; Understanding the meaning of suicide tweets is difficult; Mobile phone connectedness may assist with understanding real-life connectedness. **Conclusion:** Social media has been long used for marketing and promotion, but it has not been applied systematically to understand how social networks influence atttitudes and behaviour for heatlh. The study of social media and offline networks may assist in promoting positive behavioural change and improve attitudes to mental illness.

A virtual mental health clinic for university students: a qualitative study of end user service needs and priorities

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Background: University students are at high risk of developing mental health problems, which if untreated, can have a significant negative impact on their current and future personal, academic, interpersonal and vocational functioning. Help seeking for mental health problems among university students is low, and internet-based interventions such as virtual clinics have the potential to provide private, streamlined, high quality care to this vulnerable group. The aim of this study was to conduct focus groups with university students to obtain input on potential functions and features of a university-specific virtual clinic for mental health. **Methods:** Four focus groups were conducted with students from the Australian National University (ANU). Participants were 19 undergraduate students aged between 19 and 24 years who were recruited to participate in the focus groups via e-mail. Focus group discussion was structured by questions that addressed the following topics: (1) the utility and acceptability of a virtual mental health clinic for students, and (2) potential features of a virtual mental health clinic. **Results:** Participants viewed the concept of a virtual clinic for university students favourably. Participants expressed a desire to connect with professionals through the clinic, for the clinic to provide information tailored to issues faced by students, and for the clinic to enable peer-to-peer interaction. **Conclusion:** Overall, results of the study suggest that a university-specific virtual clinic may address some of the help seeking barriers that students experience, and allow universities to improve rates of help seeking among their students.

The effectiveness of interventions designed to reduce stigma: a meta-analysis

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Background: The stigma associated with mental disorders is responsible for increased psychological distress, is a barrier to help-seeking, and is associated with reduced employment and other opportunities. Evidence-based stigma interventions are critical to addressing this public health problem. This paper describes the results of a quantitative meta-analysis of randomized controlled trials (RCTs) designed to reduce the stigma associated with mental illness (Griffiths et al., *World Psychiatry*, 2014). **Methods:** A systematic search was undertaken of PsycINFO, PubMed and Cochrane databases using search terms expanding the concepts of 'stigma' and 'mental illness'. Meta-analyses were conducted using the Comprehensive Meta-Analysis Software program, employed a random effects model and standardized mean differences at post-test. **Results:** Twenty-six RCTs contained data suitable for inclusion in the meta-analysis. The trials targeted personal stigma (n=19, 6318 participants), perceived stigma (n=6, 3042 participants) and self-stigma (n=3, 238 participants). Interventions targeting personal stigma were effective but the effect sizes were small (combined d=0.28, p< .001). More specifically interventions for personal depression stigma (d=0.36, p<.01), personal psychosis stigma (d=0.20, p<.01) and personal generic mental illness stigma (d=0.30, p<.01) were effective. Educational interventions targeting personal stigma were effective (d=0.33, p< .001) but there were insufficient studies to determine the impact of contact-only interventions. Online interventions were as effective as face-to-face delivery. Interventions designed to reduce perceived stigma were ineffective (d=0.03, p=0.77), The pooled mean effect size for self-stigma interventions was not statistically significant (d=0.16, p=.57). **Conclusion:** The findings support the implementation of educational interventions to reduce stigma for depression and psychosis. Given its effectiveness, reach and low cost, the Internet offer a promising method for disseminating destigmatisation educational programs en-masse. Further research is required to investigate the role of consumer contact in reducing stigma, to explore methods for reducing perceived and internalized stigma and to investigate stigma reduction interventions for anxiety disorders.

Participatory patterns of members in an Internet support group for depression and other mental health disorders

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Background: Online peer-to-peer support groups are a popular form of help sought by members of the public for health conditions, particularly depression. However, little is known about the participatory patterns of members of such groups beyond the superuser/ contributor / lurker trichotomy. **Methods:** A social network analysis was conducted on 2932 members of an Australian Internet support group for depression and other mental health disorders using Gephi 0.8.2 software. The network was partitioned into modularity classes of highly interconnected sub-groups of members. The members of the resultant modularity classes were compared with respect to their demographic details and participation in the different forums (types of mental illnesses). A time-lapse of the network's growth between 2008 and 2014 was created to visualise the development of connections between members. **Results:** Four main modularity classes were detected. There were no significant differences in demographics of members across the modularity classes. Some significant differences were found with respect to forum topic participation. The time-lapse revealed that the modularity classes encapsulated cohorts of members who started and stopped participating in the Internet support group in a similar timeframe. Within each modularity class, high engagement of a member at an earlier time (first 10% of posts) predicted high engagement of that user at a later time (100% of posts). The probability that a user would be ranked as highly at 100% as they were at 10% was optimal when considering the top 8 ranked members, at 58.3%. **Conclusion:** A life-cycle of successive cohorts of members was found to be a participatory pattern of the Internet support group. From this pattern it may be possible to make predictions about future levels of engagement of particular members.

Thursday, William Magarey East, 1400-1500

Food as medicine: the role of diet and nutrition in serious mental illness

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Hippocrates told us 400 years BC that 'food should be our medicine and medicine should be our food'. Over 2000 years later we are facing an epidemic of chronic illness globally, and leading scientists are calling for junk food to be listed as a risk factor for non-communicable disease. Increasingly, lifestyle habits including poor diet are being associated not only with poor physical health but also with poor mental health. Furthermore, there is considerable overlap between physical and mental illness, supportive of common underlying biological mechanisms. In particular, cardiovascular disease and depression, two of the leading causes of disability and mortality worldwide, commonly co-occur and are predictive of each other. People with serious mental illness have a 25-30 year lower life expectancy than average due largely to cardiovascular disease risk factors. Traditional Mediterranean-style diets – characterised by whole plant foods such as vegetables, fruit, legumes, nuts, seeds, olives and olive oil, as well as fish, moderate red wine intake and low intake of processed foods and red meat – have been investigated for their cardioprotective and general health benefits. The rich abundance of nutrients provided by such diets, including a range of vitamins and minerals, cardioprotective antioxidants, omega-3 and monounsaturated fatty acids, also have a vast array of important roles in brain function and have accordingly been investigated to varying degrees for their mental health benefits. Research investigating the synergistic and additive benefits of nutrients provided by a whole food diet for mental health is in its infancy. Emerging population studies are suggesting links between dietary patterns and mental health, and randomized controlled trials are currently underway including work by our team investigating cardiometabolic and mental health benefits of a Mediterranean-style diet supplemented with omega-3 rich fish oil.

Premorbid correlates of risk for psychosis in childhood and adolescence: new targets for preventive interventions?

Kristin R. Laurens[1,2,3]

[1]*University of New South Wales, Sydney, Australia*
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[3]*Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, United Kingdom*

Background: The clinical staging model of psychosis delineates the evolution of illness from "at-risk"/vulnerability states and subthreshold symptom stages, through first psychotic episode, to chronic illness, with prevention and early intervention efforts targeted at early stages offering greatest potential benefit. The opportunity for effective prevention is predicated on an ability to identify at-risk individuals, which may be facilitated by the determination of biological and cognitive markers that delineate risk status, and onset and progression of illness. **Methods:** Cross-sectional and longitudinal data, focusing on biological and cognitive indices previously implicated in schizophrenia, were collected in a longitudinal sample of children recruited initially aged 9-12 years, and followed biennially through two follow-up assessments. Three groups were assessed: (i) children with a family history of illness (FHx-risk; n=40); (ii) children presenting multiple developmental antecedents of schizophrenia (ASz-risk; n=41); and (iii) their typically-developing peers without family history or antecedents (TD; n=49). **Results:** Cross-sectional data from the baseline and first follow-up assessments indicated that children presenting different vulnerabilities (FHx-risk, ASz-risk) demonstrated a range of early biological and cognitive abnormalities relative to TD children, many (though not all) of which were common across the risk states. Longitudinal cognitive data from the three assessments indicated that different functions follow distinct developmental trajectories from childhood into adolescence, with particular dysfunctions in the different at-risk groups emerging prominently at different developmental stages. **Conclusion:** Preliminary evidence identifies a variety of potential biological and cognitive markers of risk for psychosis, and of evolving pathophysiology, in children vulnerable to psychosis, with the abnormalities that are characteristic of first-episode and chronic schizophrenia patients emerging at different ages/stages of development. In addition to their potential role as predictive or diagnostic markers, several of the biological or cognitive indices may constitute modifiable targets for intervention. Further longitudinal assessments tracking development in the cohort continue.

Progress in psychiatric genetics at last – how do we use what we have learned?

Naomi Wray[1]

[1]*University of Queensland, Brisbane, Australia*

Family history as a risk for psychiatric disorders is a widely replicated observation but identification of specific DNA variants has proved difficult. However, advances in technology of the last five years have started to make unprecedented inroads in explaining the genetic component of risk. Most progress to date has been made in schizophrenia, but the results from currently available data show that similar progress will be made for the other disorders. Given the complexity of psychiatry disorders, perhaps it is not surprisingly that the empirical data is revealing complex genetic heterogeneity and a genetic architecture of hundreds of genetic variants of small effect. What are the implications of these results? How do we use them? How do we contribute to the next generation of research? How do we prepare for the advances the next decade of genetics research may bring to the clinic?

Thursday, William Magarey East, 1520-1650

Why do parents supply alcohol? Parenting practices, peers, and behaviour

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[5] *National Drug Research Institute, Curtin University, Perth, Western Australia, Australia*

Aim: Alcohol consumption most commonly occurs in supervised family contexts during early adolescence. Parental alcohol provision has received considerable attention in public discourse, often being the subject of anecdotal discussions. Despite this, research has overlooked what factors contribute to parental provision during early adolescence. The present paper investigated prospective associations between parenting practices, peer influences, and problem behaviours in relation to early adolescent parental alcohol provision. **Methods:** Parent-child dyads were recruited across 49 Australian secondary schools (T1 M adolescent age: 12.4, SD=0.6). A total of 1,823 parent-child dyads completed surveys at T1, and 1,729 (94.8%) also completed surveys one-year later at T2. Planned univariate and multivariate logistic regression procedures were conducted, testing T2 parental provision of a sip(s) of alcohol in relation to T1 parenting practices, peer influences, and problem behaviours. **Results:** At T2, 26.0% of parents reported providing a sip(s) of alcohol. T2 provision was not associated with any poor T1 parenting practices. Compared to no provision, T2 provision was associated with increased levels of T1 parental alcohol consumption, and home alcohol access; and lenient alcohol-specific rules. All T1 peer influence covariates were associated with T2 provision. Adjusting for all T1 covariates, the multivariate model was significant ($\chi^2_{22}=411.95$, $p<0.001$). Only increased T1 home alcohol access, lenient alcohol-specific rules, and parental perception of substance-using peers were associated with T2 provision. **Conclusion:** There was no association between parental provision and poorer parenting practices in the present data. Parental provision appeared to occur opportunistically in the present sample, through home alcohol access and parental alcohol consumption. Findings also suggested provision may represent parental responses to substance-using peers, and the inevitably of adolescent alcohol consumption. Whilst provision was associated with lenient alcohol-specific rules, it is also possible that the supervision implicit in parental provision represents parental control and conditions regarding adolescent alcohol consumption.

Preventing depression in children and adolescents: what works?

Emily Stockings[1], Louisa Degenhardt[1], Cathrine Mihalopoulos[2], Yong Yi Lee[3], Jan Barendregt[3], Mary Lou Chatterton[2], Megan Hobbs[4], Gavin Andrews[4].

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[2]*Population Health Strategic Research Centre, Deakin University, Burwood, Australia*
[3]*School of Population Health, University of Queensland, Wacol, Australia*
[4]*Clinical Research Unit for Anxiety and Depression, St Vincent's Hospital, Darlinghurst, Australia*

Background: Depression in children imparts significant burden and is associated with self-harm, suicide and depression in adulthood. The Australian mental health system is currently undergoing significant reform, and there has been a recent push for effective prevention interventions under the National Preventative Health Strategy. Thus, the aim of this study was to determine whether universal school-based interventions are effective in preventing the onset of depression in children and adolescents. **Methods:** A systematic review of reviews was conducted in August, 2013 using the electronic databases PubMed, Medline, PSYCINFO and the Cochrane Library of Systematic Reviews. Randomised controlled trials examining the efficacy of psycho-educational depression prevention programs conducted in school settings among young people (aged 5-18) without a current mental disorder were eligible for inclusion. Data were synthesised using the MetaXL inverse variance heterogeneity model. **Results:** A total of 41 unique trials and 29,986 participants were included in the analysis. The risk of having a depressive disorder was reduced compared to no intervention at post-test (5 studies, 1002 participants, risk difference (RD) = -0.06, 95% confidence interval (CI): -0.11 to -0.01), and 6-months (8 studies, 532 participants, RD = -0.06, 95% CI: -0.11 to -0.01) but was not sustained at the 12-month follow-up (5 studies, 1008 participants, RD = -0.06, 95% CI: -0.13 to 0.02). There was evidence of a reduction in depressive symptoms compared to no intervention at post-test (38 studies, 8822 participants, Hedges g = -0.08, 95% CI: -0.14 to -0.03), and 6-months (25 studies, 4428 participants, g = -0.09, 95% CI: -0.13 to -0.04) but not at 12-months (16 studies, 4933 participants, g = -0.05, 95% CI = -0.11 to 0.01. **Conclusion:** There is some evidence that universal school-based prevention programs may prevent the onset of depression among children and adolescents in the short term.

Preschooler sleep problems: associations with maternal sleep-related cognitions, bedtime interactions and child anxiety

Kerry-Ann Grant[1], Amy Coggins[1]

[1]*Centre for Emotional Health, Macquarie University, Sydney, Australia*

Background: Up to 40% of parents report that their infants and young children experience sleep problems. Sleep problems are a significant source of distress for families and are associated with poorer child social, emotional and academic outcomes. Childhood sleep problems are also associated with increased cost to the Australian healthcare system, estimated as an excess annual burden of $27.5 million (95% CI $9.2 to $46.8 million) (Quach et al., 2013). A better understanding of factors contributing to sleep disturbances will inform the development of interventions that may relieve healthcare costs and the burden on children and families. **Methods:** A community sample of 88 mothers completed the Tayside Children's Sleep Questionnaire and a five-night sleep diary recording their preschooler's (M=3.2 years, SD=.5) sleep habits, sleep environment and specific sleep problems. Additional questionnaires assessed maternal cognitions about their child sleep behaviours (Maternal Cognitions about Infant Sleep Questionnaire; Parent-Child Sleep Interactions Scale), and maternal and child anxiety (Spielberger State-Trait Anxiety Inventory; Spence Preschool Anxiety Scale respectively). To control for potential confounding, data were collected relating to child health and development. **Results:** In line with published data, 38% of parents reported their child as having a sleep problem. Following General Linear Modelling, maternal cognitions about child sleep, F (1, 83) =11.15), p=.001, mother-child bedtime interactions F (1, 83) = 16.12, p=.000, and child anxiety F (1, 83) =9.92), p=.002, emerged as independent and significant predictors of child sleep quality. A trend-level association was found between maternal anxiety and child sleep, F (1, 83) = 3.31, p=.07. The results were independent of a range of child and maternal covariates. **Conclusion**: This study shows that both maternal and child factors contribute to sleep problems in preschoolers and should be addressed in the development of clinical interventions.

Clinical profiles of women presenting to a Perinatal Mental Health Service (PMHS)

Jeffrey Cubis[1,2], Rebecca Reay[1], Cathy Ringland[2], Kelly Mazzer[2], Kate Carnall[2], Beverley Raphael[1], Rachael Morrison[2]

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Background: Exposure to trauma and adversity can greatly increase a woman's risk of developing a mental health disorder during the perinatal period. In turn, this can interfere with her attachment to the infant, her relationships and overall adjustment to motherhood. This study aimed to investigate a broad range of experiences of trauma and trauma symptoms in pregnant and postpartum mothers attending a specialist mental health service. **Methods:** All mothers who attended an initial assessment at a PMHS were invited to complete a questionnaire designed to measure potentially traumatic events (PTE) and posttraumatic stress symptoms and participated in a clinical interview. They were then followed up 6 months with either an online or paper self report questionnaire. This paper presents the finding from their clinical interviews. **Results:** 70% (N=101) of mothers consented to participate. So far over 50% have completed their follow up. The majority of mothers had trauma histories and more than half scored in the clinical range for PTSD symptoms. Co-morbid PTSD and depressive symptoms were more common than either alone. Preliminary results show the trend for both sets of clinical features to improve significantly overtime but PTSD symptoms reduce more slowly. **Conclusion**: Interpersonal trauma, such as emotional, physical, sexual abuse and domestic violence, was more common than trauma arising from childbirth. Their clinical features may also be more persistent into the early years of child rearing.

The effect of postpartum depression on domains of everyday functioning of the mother, father and infant: a systematic review

Edward Miller[1], K. Oliver Schubert[1], Scott R. Clark[1], Bernhard T. Baune[1]

[1] *Discipline of Psychiatry, School of Medicine, The University of Adelaide, Australia*

Background: Functional end-points of psychiatric disorders have recently received increased attention in the clinical and research community. Characterization of maternal, paternal and infant functioning in the post partum period is an important and widely represented area in the literature, but considerable heterogeneity of studies exists due to differing definitions of functioning and a wide variety of outcome measures employed. This systematic review sought to categorize the multiple domains of maternal and familial function in the postpartum period in order to optimize the documentation of the effect of maternal postpartum depression (PPD) on functioning of the mother, father and infant. **Methods:** A literature search of appropriate search terms was conducted using Pubmed, 345 articles were identified. Of these, 181 articles were immediately excluded according to exclusion criteria, leaving 164 abstracts to be retrieved for further evaluation. Of these, 101 further articles were excluded resulting in 63 articles for systematic review. **Results:** 65.4% of the articles covered maternal function, 3.6% covered paternal function, and 32.9% covered infant function. Of the domains covered, the most investigated was function of the mother as a caregiver for the infant, with 16 articles, followed by behavioral function of the infant with 12 articles, and social function of the mother with 9 articles. The majority of articles demonstrated that postnatal depression has a detrimental effect on the functional domain examined. **Conclusion:** Functional endpoints of PPD are important to consumers and their families, and are receiving increased research attention. Several functional domains of maternal, paternal and infant life are severely affected by maternal PPD.

The National Register of Antipsychotic Medication in Pregnancy (NRAMP): healthy mothers, healthy babies

Jayashri Kulkarni[1], Heather Gilbert[1]

[1]*Monash Alfred Psychiatry Research Centre (MAPrc), Alfred Hospital & Central Clinical School, Monash University, Melbourne, Victoria*

Background: It is important to evaluate the safety of antipsychotic medication use during pregnancy, to gain a better understanding of the risk/benefit analysis and to ensure healthy outcomes for mother and infant, however current data on the effect of these medications are limited. The National Register of Antipsychotic Medication in Pregnancy (NRAMP) will provide a better understanding of antipsychotic medication use during pregnancy, with the development of evidence-based guidelines which will assist clinicians in making informed decisions for improved treatment options and encourage safer outcomes for mother and baby. **Methods:** NRAMP is an Australia-wide, observational study involving women of child-bearing age who take antipsychotic medication during pregnancy. Information gathered antenatally and postnatally includes maternal demographic, social, medical, psychiatric, medication and obstetric history, fetal/infant development and information on the general health, wellbeing and progress for mother and infant in the first 12 months. **Results:** NRAMP is current and ongoing; a snapshot of observations will be presented on both maternal and infant outcomes in the first 12 months. **Conclusion:** The targeted development of evidence-based clinical guidelines will expand our knowledge, understanding and care plan options for mothers who take antipsychotic medication during pregnancy, and their infants. This includes maternal health and wellbeing, fetal/neonatal development and outcomes, treatment options, sequelae and follow up, where necessary and the opportunity to gain an improved understanding of these concerns as we provide for healthy mothers, infants, families and communities, both now and in the future.

Lifestyle approaches to mental health: the role of physical activity

Emma L. Burrows[1], Caitlin E. McOmish[1,2], Faith Lamont[1], Anthony. J. Hannan[1,3], Julie A. Morgan[4], Frances Corrigan[4], Emily Jeahne[4], Bernhard T. Baune[4], Steven Moylan[5], Harris A Eyre[6,7], Michael Maes[5,8], Bernhard T Baune[6], Felice N Jacka[5], Michael Berk[5], Nicola Gates[9], Gaynor Parfitt[10]

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[2]*Sackler Institute for Developmental Psychobiology and Department of Psychiatry, Columbia University, New York, USA*
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[9]*Centre for Healthy Brain Aging (CHeBA), School of Psychiatry, University of New South Wales, Sydney, Australia*
[10]*University of South Australia, Adelaide, Australia*

Background: Physical activity and exercise have well documented benefits for general health, and evidence suggests that physical activity is also beneficial for mental health, mood and cognition via numerous neurobiological mechanisms. **Methods:** Diverse research in physical activity and mental health will be presented that ranges from the laboratory to human population studies, from anxiety disorders to depression, schizophrenia and dementia, investigating gene-environment interactions and experience-dependent plasticity in the pathogenesis of psychiatric disorders, physical activity induced neurobiological adaptations in brain regions involved in homeostatic modulation, inflammation and oxidative stress pathways, and exercise mode and intensity. **Results:** Environmental enrichment, which enhances cognitive and physical activity, has beneficial effects in mouse models of psychiatric disorders, an experimental approach which allows modelling of gene-environment interactions of relevance to specific psychiatric disorders; exercise appears to result in specific regional adaptations in the brain stem and hypothalamus, which seem to be beneficial to the modulation of centrally mediated stress responses involving the HPA axis, circadian rhythm functioning, and energy balance/metabolism; inflammation and oxidative and nitrogen stress may mediate effects of physical activity on anxiety disorder symptoms; exercise may lower dementia risk via multiple mechanisms; and advances in understanding the exercise-intensity affect relationship may help individuals with poor mental health. **Conclusion:** Further research in this area would contribute to an increasing understanding of the role of physical activity in healthy brains as well as the pathogenesis of prevalent neuropsychiatric and neurological conditions, with implications for prevention of mental illness and the substantial, growing burden that it carries.

PRESENTER 1

Environmental enrichment, exercise and experience-dependent plasticity in mouse models of psychiatric disorders

Emma L. Burrows[1], Caitlin E. McOmish[1,2], Faith Lamont[1], Anthony. J. Hannan[1,3]

[1]*Florey Institute of Neuroscience and Mental Health, University of Melbourne, Parkville, Victoria Australia*
[2]*Sackler Institute for Developmental Psychobiology and Department of Psychiatry, Columbia University, New York, USA*
[3]*Department of Anatomy and Neuroscience, University of Melbourne, Parkville, Victoria, Australia*

Background: We have investigated the role of gene-environment interactions and experience-dependent plasticity in the pathogenesis of psychiatric disorders, including schizophrenia, autism and depression. **Methods:** Wildtype and mGluR5 knockout littermate mice were randomised into standard housing or environmental enrichment, a housing condition of enhanced novelty and complexity which increases opportunities for cognitive stimulation and physical activity. After the mice had reached adulthood, a full battery of behavioural tests was performed, including touchscreen assays of learning, memory and various cognitive endophenotypes. Additional experimental approaches, including behavioural pharmacology, neuronal morphometry, dendritic spine analysis and gene expression assays, were used to investigate potential molecular and cellular mechanisms. Follow-up studies include exercise (wheel running) interventions. **Results:** We have demonstrated that environmental enrichment can selectively improve schizophrenia-like endophenotypes, including long-term learning impairments, in mGluR5 knockout mice. The mGluR5 knockout mice showed increased sensitivity to the hyperlocomotive effects of the NMDA receptor antagonist MK-801, with exposure to environmental enrichment further exacerbating its effect. Interestingly, environmental enrichment significantly affected neuronal spine density and brain-derived neurotrophic factor (BDNF) protein levels in the hippocampus, however mGluR5 knockout mice were resistant to this alteration, suggesting that mGluR5 is critical to these aspects of experience-dependent plasticity. **Conclusion:** Environmental enrichment, which enhances cognitive and physical activity, has beneficial effects in mouse models of psychiatric disorders. This experimental approach allows us to model gene-environment interactions of relevance to specific psychiatric disorders and may also inform the development of 'enviromimetics', drugs that mimic or enhance the beneficial effects of enhanced cognitive stimulation and physical exercise.

PRESENTER 2

Chronic physical exercise induced adaptations in the brainstem and hypothalamus: a brief review of exercise effects on stress responses, the circadian clock, and energy balance metabolism.

Julie A. Morgan[1], Frances Corrigan[1], Emily Jeahne[1], Bernhard T. Baune[1]

[1]*The University of Adelaide, Adelaide, Australia*

Background: The pathogeneses of prevalent conditions including depression and Alzheimer's disease is increasingly understood to involve the dysfunction of central homeostatic systems including stress responses, circadian rhythms, and energy balance metabolism, although these are not yet fully understood. Encouragingly, clinical evidence suggests that physical exercise is beneficial for mood and cognition in these conditions, although many of the neurobiological mechanisms involved remain to be elucidated. **Methods:** We conducted a review of murine literature from Pubmed, Embase, and Web of Knowledge investigating the physical exercise induced neurobiological adaptations in brain regions involved in the homeostatic modulation of these systems, such as the brain stem and hypothalamus. **Results:** Although there is limited literature about these topics, exercise appears to result in specific regional adaptations in the brain stem and hypothalamus. These seem to be overwhelmingly beneficial to the modulation of centrally mediated stress responses involving the HPA axis; circadian rhythm functioning; and energy balance /metabolism. **Conclusion:** Basic science findings about physical exercise induced adaptations in brain regions involved in fundamental homeostatic systems is providing evidence about the mechanisms involved in the pathogenesis and treatment of prevalent conditions such as depression and Alzheimer's disease. Further research in this area would contribute to increasing the understanding of the healthy brain/mind as well as the pathogenesis of prevalent neuropsychiatric and neurological conditions such as depression and Alzheimer's disease.

PRESENTER 3

Are the beneficial effects of exercise on anxiety symptoms and disorders mediated by inflammation and oxidative stress?

Steven Moylan[1], Harris A Eyre[2,3], Michael Maes[1,4], Bernhard T Baune[2], Felice N Jacka[1], Michael Berk[1]

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[3]*Semel Institute for Neuroscience and Human Behavior, UCLA, Los Angeles, USA*
[4]*PiyavateHospital, Bangkok, Thailand*

Background: It has been repeatedly demonstrated that regular physical activity exerts positive effects on anxiety disorder symptoms. A potential pathway through which this effect may be mediated is through modulation of inflammation and oxidative & nitrogen stress (O&NS). **Methods:** We undertook an update of our review (*Moylan et al, 2013, Neuroscience & Biobehavioral Reviews)* exploring the inter-relationships between anxiety disorders, inflammation and O&NS, and physical activity. Our focus was to assess whether the available evidence supports modulation of inflammation and O&NS as being at least a partial contributor to the effect of physical activity on anxiety disorder symptoms. **Results:** Numerous lines of evidence support regular physical activity as being both anti-inflammatory and anti-O&NS. Through this action, physical activity appears to be associated with positive effects on factors known to be disturbed in anxiety disorders, such as neuroplasticity and neutrophin expression. It is therefore plausible that inflammation and O&NS modulation is one mechanism through which physical activity reduces anxiety disorder symptoms. **Conclusion:** Inflammation and O&NS may be an important mediator through which physical activity can modulate anxiety disorder symptoms. Research efforts towards understanding this pathway in greater detail may inform both a better understanding of anxiety pathogenesis and specific physical activity treatment interventions.

PRESENTER 4

Does physical activity benefit cognitive function in older adults?

Nicola Gates[1]

[1]*Centre for Healthy Brain Aging (CHeBA), School of Psychiatry University of New South Wales, Sydney, Australia*

Background: Cognitive decline associated with ageing and dementia is a major source of disability to individuals and a cost burden to society. Early life style interventions are increasingly recommended as a means to delay dementia onset and preserve independent levels of functioning for a longer period. Physical activity and exercise have well documented benefits for general health and were more recently shown to improve cognitive function. Physical exercise is currently promoted as a potential intervention to reduce dementia risk, improve cognition, and delay clinical onset. **Methods:** Literature review of epidemiological studies and critical evaluation of clinical trials in adults with healthy cognitive function and those with mild impairment and dementia, including review of results from systematic and meta-analytic reviews. **Results:** Epidemiological studies consistently indicate that physical activity is associated with lowered dementia incidence and less pathological change, and multiple potential mechanisms of exercise benefit for brain health and cognitive function are implicated. Clinical trials provide evidence that physical exercise benefits different cognitive domains including memory, information processing and executive function, however overall results are mixed, with many trials having limited or no benefit on cognition. **Conclusion:** Exercise may benefit cognitive function in healthy adults and those with early cognitive changes and dementia, however results are inconclusive. A number of methodological considerations are identified which impact upon the evidence base, providing the basis for recommendations for future research, and which may also improve clinical implementation.

PRESENTER 5

Exercise and mental health: the relevance of intensity

Gaynor Parfitt[1]

[1]*University of South Australia, Adelaide, Australia*

Background: Exercise has been shown to reduce symptoms of depression and improve mental and physical health. However the types of exercise employed in intervention studies varies between aerobic and non-aerobic activities and in the frequency, duration and intensity of exercise employed. Further, few studies report sustainability following the programs. Drop-out of over 50% during and following programs is typical. **Methods**: Research demonstrates that habitual activity levels are associated with anxiety, depression and self-esteem, with psychological health negatively correlated with time in very light intensity activity (generally sedentary) and positively correlated with time in more vigorous activity. Our challenge is therefore to design and implement programs to reduce sedentary time and encourage individuals to choose to spend time in activity or exercise that would be classified as more intensive. A challenge, made harder given the influence low mental health has on behaviour. **Results**: Advances in understanding the exercise-intensity affect relationship may offer a solution. Typically, the exercise mode and intensity are prescribed, which may contribute to reports of low compliance to exercise programs and poor adherence following the program on two counts: 1) a prescription approach removes the individual's autonomy, which negatively influence motivation; and 2) acute psychological responses during exercise are intensity dependent and have been linked to future exercise participation. **Conclusion**: Following a review of the relevant literature and theory, a new approach to exercise intensity regulation will be presented, which has the potential to help individuals with poor mental health and improve both their psychological and physical state.

Thursday, Premiership Suite, 1520-1650

Hearing voices and other hallucinations – A smorgasbord of basic and applied research findings

Chair: Susan Rossell

Simon McCarthy-Jones[1], Susan Rossell[2], Emma Barkus[3], Neil Thomas[4], Vanessa Beavan[5]

[1]*Department of Cognitive Science, Macquarie University, Sydney, Australia*
[2]*Swinburne University*, *Monash-Alfred Psychiatry Research Centre, St Vincent's Hospital, Melbourne, Australia*
[3]*University of Wollongong, Wollongong, Australia*
[4]*School of Health Sciences, Swinburne University, Monash Alfred Psychiatry Research Centre, Melbourne, Australia*
[5]*Australian College of Applied Psychology Sydney, Australia*

Hallucinations are common experiences in psychiatric and non-psychiatric populations, and can occur in different modalities. They are often vivid, substantial and personalised, and may be associated with distress and worry. Hallucinations are complex phenomena which occur at the crossroads between the brain and the mind. They have generated much research interest from individuals with different specialisations and clinical expertise. A comprehensive understanding of hallucinations thus relies on the integration of information derived from various disciplines, including phenomenological, cognitive, neurobiological, psychological, social-cultural and personal perspectives. This symposium aims to present the most up-to-date basic research and translational projects in Australia today. Dr Simon McCarthy Jones will take a neurobiological perspective by examining the arcuate fasciculus using diffusion tensor imaging (DTI). Professor Susan Rossell will contrast and evaluate cognitive models of auditory verbal hallucinations using a case study approach and magnetoencephalography methodologies. Dr Emma Barkus will report on an examination of psychological processes underlying hallucination-like experiences in the healthy population. Associate Professor Flavie Waters will review the evidence base linking sleep deprivation and psychotic symptoms, and will explore sleep medicine sciences as a building block for new interventions targeting distressing voices. Dr Neil Thomas will discuss the current debate in the psychological treatment literature on effect sizes of cognitive behavioural therapy for psychosis and implications for research on hallucinations as a specific experience. Finally, and importantly, Dr Vanessa Beavan will discuss the MODERN (Manifestation of Distress: Explore, Relevance, Normalise) approach to hearing voices group therapies, and will present information regarding the efficacy of this psychological approach using quantitative and qualitative investigations.

PRESENTER 1

Auditory verbal hallucinations and the integrity of the arcuate fasciculus: a diffusion tensor imaging study

Simon McCarthy-Jones[1], Lena Oestreich[2], Australian Schizophrenia Research Bank[3] & Thomas J. Whitford[2]

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Background: Auditory verbal hallucinations (AVH: 'hearing voices') represent a distressing experience for many people diagnosed with schizophrenia, yet their causes remain poorly understood. Previous research has found that the arcuate fasciculus, the white matter tract linking Broca's and Wernicke's area, has reduced structural integrity in people with schizophrenia with auditory verbal hallucinations (AVH). However, the specificity of these changes to AVH, as opposed to schizophrenia or hallucinations per se, remains unclear. **Methods:** Diffusion tensor imaging of the arcuate fasciculus was undertaken in a sample of patients with schizophrenia with and without AVH (n=113), as well as healthy controls (n=40). **Results:** A reduction in fractional anisotropy in the left arcuate fasciculus was found to be specifically associated with AVH, rather than hallucinations or schizophrenia per se. **Conclusion:** Reduced white matter integrity in the left arcuate fasciculus is associated with AVH in people diagnosed with schizophrenia. However, such changes appear not to be a sufficient cause for AVH, and more research is needed to establish what further neurological changes are required for AVH to occur.

PRESENTER 2

Using magnetoencephalography (MEG) to evaluate neurocognitive models of auditory verbal hallucinations

Susan L Rossell[1,2,3], Sarah Lancaster[1,2], Neil Thomas[1,2], Matt Hughes[1] and William Woods[1]

[1] *Swinburne University, Melbourne, Australia*
[2] *Monash-Alfred Psychiatry Research Centre, Melbourne, Australia*
[3] *St Vincent's Hospital, Melbourne, Australia*

Background: Among the symptoms of schizophrenia, auditory verbal hallucinations (AVH) are perhaps the most profound and distressing, yet to date we lack a comprehensive understanding of this symptom's neurobiological basis. Neurocognitive models of AVHs suggest that AVHs arise from the contents of consciousness being misperceived as of external origin, but models differ in the proposed mechanisms. Two key mechanisms have been proposed: impaired intentional inhibition and misinterpreted inner speech, which have been associated with different neurobiological networks. The current project aims to use sophisticated neuroimaging (MEG) to clarify which of these two mechanisms accounts for AVH phenomenology. **Methods:** A 38 year old male patient with schizoaffective disorder completed a 40 minute MEG in which he used a button press to indicate when he begun to hear a voice and when that voice ended. A whole head 306 channel magnetometer system (Elekta Neuromag TRUIX) was used with a sampling rate of 1000hz. Statistical maps demonstrating significance for voice hearing compared to non-voice hearing periods were calculated for each sensor and plotted in each of the frequency bands. **Results:** Over the 40 minutes the patient indicated 10 voice hearing experiences. Voice hearing was associated with beta frequency increases in activity bilaterally in fronto-temporal regions. Gamma showed a right frontal increase detected by the magnetometers. **Conclusion:** The activity seen in the fronto-temporal regions could be the activation of the involved in inner speech perception/production. In contrast, the frontal gamma activity could be interpreted as the patient is actively trying to 'suppress' or intentionally inhibit his voices. The current case study speaks to the validity of both neurocognitive models in explaining AVH phenomenon. This information will be important for informing the development of more targeted treatments for people with AVH, and for possible treatment tailored to individual differences in mechanisms underpinning AVH.

PRESENTER 3

Predictors of experimentally detected non-clinical hallucinations

Emma Barkus[1]

[1]*University of Wollongong, Wollongong, Australia*

Background: Auditory hallucinations present in a number of psychiatric disorders and the general healthy population. Identification of those in the general population who are prone to hallucinations permits exploration of the mechanisms underpinning and factors which predict them without the confounds of medication. We predict that factors which predict auditory hallucinations in patients will also predict hallucinatory-like experiences in people from the general population. **Methods:** 92 young Australians (74% female; mean aged: 24 (SD=10) years) completed an auditory signal detection task to elicit hallucinatory-like experiences. The participants also completed a number of measures capturing schizotypy, cognitive failures, fantasy predisposition and demographics. **Results:** Participants who scored above the mean on the Unusual Perceptual Experiences (UPE) subscale from the SPQ reported more cognitive failures and had higher fantasy proneness scores. Additionally, participants who scored above the mean on UPE reported significantly more false perceptions in the signal detection task. Those who had had an imaginary companion as a child had more false perceptions in the task, although this was only at a trend level. **Conclusion:** Factors such as hallucinatory proneness, cognitive failures and proxies for psychotic symptoms such as imaginary friends are associated with hallucinatory-like experiences in the general population. Given that similar factors predict false perceptions in health individuals, as hallucinations in those with a diagnosed illness, it is likely that similar perceptual mechanisms underpin this symptom across the psychosis continuum.

PRESENTER 4

Psychological treatment trials for hallucinations: what are we not learning?

Neil Thomas[1,2]

[1]*School of Health Sciences, Swinburne University, Melbourne, Australia*
[2]*Monash Alfred Psychiatry Research Centre, Monash University and the Alfred, Melbourne, Australia*

Background: Cognitive behavioural therapy (CBT) has been widely recommended by clinical practice guidelines as a routine intervention for persisting psychotic phenomena such as hallucinations, however a series of recent meta-analytic papers has debated whether or not the magnitude of the benefits of CBT has been over-estimated, particularly relative to comparison control interventions and in more rigorously conducted trials. This literature has focused primarily on overall psychotic symptomatology as an outcome, lacking sensitivity to potential impacts on hallucinations as a specific experience. **Methods**: Following a review of the psychological literature conducted for the International Consortium for Hallucinations Research, a critical review of recent meta-analyses and the methodologies of original CBT trials was conducted with the aim of identifying the current state of evidence about cognitive behavioural interventions for hallucinations as a specific experience, and key limitations in methodological approaches used to date. **Results**: There has been relatively little direct study of hallucinations as a specific outcome of CBT, and observations of effects is dependent upon inclusion of hallucinations as a secondary outcome in trials of broader CBT for psychosis and on a small literature focused on command hallucinations. These studies support overall beneficial effects of CBT on aggregate hallucination scale scores, independent of study quality. However study designs adopted reduce the meaningfulness of conclusions about the magnitude of effect size, the specific elements of CBT which are effective, and on determining the efficacy of CBT on the emotional and functional impact of hallucinations. **Conclusion**: The recent literature establishes that delivery of psychological therapy based on CBT as an adjunct to routine care appears more helpful than routine care alone, but has been more limited in identifying what specific interventions should be adopted to target hallucinations, particularly to reduce their emotional impact. Implications for treatment trial methodology are discussed.

PRESENTER 5

The MODERN approach to hearing voices: qualitative and quantitative analyses of a Hearing Voices Therapy Group

Vanessa Beavan[1], Debra Lampshire[2], Natalie Windsor [1]

[1]*Australian College of Applied Psychology Sydney, Australia*
[2]*Univeristy of Auckland, New Zealand*

Background: The MODERN (Manifestation of Distress: Explore, Relevance, Normalise) approach is a manualised treatment developed by consumer academic Debra Lamphsire as a group therapy intervention for people who hear distressing voices. The manual was adapted for use in a Psychology Training clinic. This study presents an analysis of the experience of group members and of outcome measures used to evaluate the efficacy of the group in terms of reducing distress and changing the relationship between voice hearers and their voices. **Methods:** Four Hearing Voices groups were run in 2012-2013, co-facilitated by provisional psychologists under the supervision of a clinical psychologist with experience in the MODERN approach. Pre- and post-data were collected on measures of mental well-being (DASS-21) and beliefs about voices (BAVQ-R), and evaluation forms were completed at the end of each group to evaluate each member's experience of the process. Further, three group members participated in semi-structured interviews exploring their experience of participating in the group. **Results:** Analyses showed significant improvement in DASS scores and significant changes in the BAVQ-R ratings, suggesting that participants experienced a shift in their beliefs about their voices and their relationship to their voices, as well as in their overall mental well-being. The qualitative analyses supported these findings, and provided additional insight into the processes that people found helpful and less helpful in terms of their group experience and outcomes. **Conclusion:** Although the MODERN approach to hearing voices is a relatively new treatment intervention, findings from this preliminary study suggest that it shows promise as a group therapy. Further investigation with larger numbers and in different settings will help to better establish its efficacy for people coping with distressing voices.

Thursday, One, 1520-1650

Work and Mental Health: is work part of the problem, part of the cure, or both?

Samuel B Harvey[1 2 3], Miranda Van Hooff[4], Alexander McFarlane[4], Leona Tan[1], Matthew Modini[1], Bridianne O'Dea[5], Nicholas Glozier[5], Eóin Killackey[6,7], Sergio Macklin[6]

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[6] *Orygen, The National Centre for Excellence in Youth Mental Health, Melbourne, Australia*
[7] *Centre for Youth Mental Health, The University of Melbourne, Melbourne, Australia*

The relationship between work and mental health is a topic of great importance to patients, clinicians, employers and policy makers. Absence from the workplace is one of the key ways in which those who suffer from mental illness are excluded from society. Mental disorders are now the leading cause of long-term sickness absence and incapacity benefits in Australia. Despite a general acceptance that mental health related work absence represents a growing public health crisis, the relationship between work and mental health is still poorly understood and has traditionally received limited research attention. However, within Australia there are a number of different research units that are investigating the role that work can have as a risk factor for mental illness and interventions to improve the occupational outcomes of those with mental illness. This symposium will pull together these streams of research to provide an overview of the most up to date research on workplace mental health. Topics covered will include the ways in which work and work-based trauma can act as a risk factor for mental illness, workplace interventions that can prevent mental illness, the impact of being out of work and what types of interventions help those with severe mental illness return to the workplace.

PRESENTER 1

Can work make us ill? Work and non-work risk factors for common mental disorder: prospective findings from a British birth cohort

Samuel B Harvey[1 2 3], Min-Jung Wang[1], Stephani Hatch[4], Max J Henderson[4]

[1]*University of New South Wales, Sydney, Australia*
[2]*Black Dog Institute, Sydney, Australia*
[3]*St George Hospital, Kogarah, Australia*
[4]*Institute of Psychiatry, King's College London, UK*

Background: Common mental disorders (CMD) are increasingly being diagnosed amongst the working age population. It has been suggested that certain types of work may increase the risk of CMD, although the relative importance of work and non-work risk factors for mental illness is unknown. **Methods:** Data from the National Child Development Study (n=6870) was analysed using multivariate logistic regression to investigate the association between work and non-work stressors and future CMD. In addition, multivariate linear regression was adopted to assess the relationship of the two types of stressors with mid-life mental well-being. **Results:** Following adjustments for a range of potential confounders, both high job strain (OR = 2.22 (1.59-3.09)) and experiences of non-work stressors (OR = 1.56 (1.11-2.20)) remained significant predictors of future CMD. These associations could not be fully explained by socio-demographic factors, past psychological health, IQ or personality measures. Compared to experiences of stressful non-work events (PAF 0.08), high job strain (PAF 0.15) accounted for a larger proportion of new-onset CMD. While mental well-being was strongly associated with high job strain, no associations were detected with non-work stressful events. **Conclusion:** Exposure to high job strain situations and non-work life stressors independently increase the risk of future CMD. Our modelling suggests 15% of new cases of CMD could have been prevented if job strain was eliminated. These findings show that modifiable work-related risk factors may be an important target in efforts to reduce rates of common mental disorder.

PRESENTER 2

The effectiveness of individual placement and support for people with severe mental illness: a systematic review and meta-analysis

Matthew Modini[1], Leona Tan[1], Beate Brinchmann[2], Min-Jung Wang[1], Eoin Killackey[3, 4], Nicholas Glozier[5], Arnstein Mykletun[1, 6], Samuel B Harvey[1, 7, 8]

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[5]*Brain & Mind Research Institute, The University of Sydney, Sydney, Australia*
[6]*Norwegian Institute of Public Health, University of Bergen, Norway*
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[8]*St George Hospital, Kogarah, Australia*

Background: Individual placement and support (IPS) has been shown to be an effective vocational program in improving competitive employment rates for individuals with severe mental illness in the United States. However, the effectiveness of IPS to be generalised to international settings, with varying economic conditions, remains to be ascertained. **Methods:** A systematic review and meta-analysis of randomised controlled trials that compared IPS to traditional vocational services was conducted. The evaluated outcome was competitive employment.**Results:** Fourteen randomised trials were included. The overall pooled risk ratio for competitive employment using IPS was 2.42 (95% CI: 1.94, 3.01). This equates to a number needed to treat (NNT) of 2. Meta regressions indicated that the country the study was conducted in, annual unemployment rate or annual GDP growth did not account for heterogeneity found. For data that was collected between 12-24 months the overall pooled risk ratio for competitive employment using IPS was 2.53 (95% CI: 1.79, 3.58). For data that was collected between 12-24 months the overall pooled risk ratio for competitive employment using IPS was 2.48 (95% CI: 1.95, 3.12). **Conclusion:** IPS is an effective intervention in a variety of international settings, independent of economic conditions, with individuals receiving IPS more than twice as likely to gain competitive employment over a two-year period compared to those who receive traditional vocational rehabilitation.

PRESENTER 3

Cumulative stress exposure in Australian emergency services personnel and the risk of mental disorder

Miranda Van Hooff[1], Alexander McFarlane[1], Michael Smith[2], Stephanie Hodson[3], Helen Benassi[4], Col Nicole Sadler[4], Denise Keenan[5], Maria Abraham[1]

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[2]*South Australian Metropolitan Fire Service, South Australia, Australia.*
[3]*Department of Veterans' Affairs, Canberra, Australia*
[4]*Department of Defence, Canberra, Australia*
[5]*Cognition, South Australia, Australia*

Emergency Services personnel due to the nature of their work (firefighting, attendance at accidents, search and rescue) are regularly exposed to a multitude of traumatic events. These exposures include actual and the risk of catastrophic injury to self or co-worker, dealing with gruesome victim incidents, rendering aid to seriously injured vulnerable victims, suffering minor injuries to the self and exposure to death and dying. As a consequence, the psychological morbidity of emergency services personnel is an issue of concern due to the costs to the individual, the workforce, and the compensation systems. There is a known risk of substance use disorders, posttraumatic stress disorder (PTSD) and depression in emergency service personnel with rates varying based on individual cumulative stress burden, workforce prevention strategies, flexibility of employment, availability of treatment with minimal administrative barriers and the availability of workers' compensation. To date, the impact of cumulative exposure to trauma on the mental health of Australian emergency service personnel remains largely unknown. Using data from the 2010 Australian Defence Force (ADF) Mental Health Prevalence and Wellbeing Study, this presentation will provide insight into the impact of multiple trauma exposure on one of Australia's largest workforces. Emerging research in current Australian Emergency Service personnel – in particular South Australian Firefighters will also be discussed.

PRESENTER 4

Not in Education, Employment or Training (NEET): characteristics of NEET status among help-seeking young adults

Bridianne O'Dea[1], Nicholas Glozier[1], Rosemary Purcell[2], Patrick McGorry[3], Jan Scott[4], Kristy-Lee Feilds[1], Daniel Hermens[1], John Buchanan[5], Elizabeth M. Scott[1], Alison Yung[3,6], Eoin Killacky[3], Adam Guastella[1], Ian Hickie[1]

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[2]*Centre for Forensic Behavioural Science, Swinburne University of Technology, Melbourne, Victoria, Australia*
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[5]*Sydney University Business School, University of Sydney, Sydney, New South Wales, Australia*
[6]*Institute of Brain, Behaviour and Mental Health, University of Manchester, Manchester, United Kingdom*

Background: Youth with mental health problems often have difficulties engaging in education and employment. In Australia, youth mental health services have been widely established with a key aim of improving role functioning; however, there is little knowledge of those who are not engaged in employment, education or training (NEET) and the factors which may influence this. This study aimed to examine NEET status and its correlates in a sample of such youth. **Methods:** Design: Cross-sectional data from a longitudinal cohort study. Setting: Between January 2011 and August 2012, young people presenting to one of four primary mental health centres in Sydney or Melbourne were invited to participate. Participants: Young adults (N = 696) aged between 15 – 25 years (M: 19.0, SD: 2.8), 68% female, 58% (n = 404) attended headspace Sydney. Measures: Individuals 'Not in any type of Education, Employment or Training' in the past month were categorised as NEET. Demographic, psychological and clinical factors alongside disability and functioning were assessed using clinical interview and self-report. **Results:** A total of 19% (130/696) were NEET. NEETs were more likely to be male, older, have a history of criminal charges, risky cannabis use, higher level of depression, poorer social functioning, greater disability and economic hardship, and a more advanced stage of mental illness than those engaged in education, training or work. Gender was found to moderate the association between NEET status and depression. Demographics such as post-secondary education, immigrant background and indigenous background, were not significantly associated with NEET status in this sample. **Conclusion:** One in five young people seeking help for mental health problems were not in any form of education, employment and training. The commonly observed risk factors did not appear to influence this association, instead, behavioural factors such as criminal offending and cannabis use appear to require targeted interventions.

PRESENTER 5

Tell them they're dreaming: why a new approach is needed to work and education for young people with mental illness

Eóin Killackey[1,2], Sergio Macklin[1]

[1] *Orygen, The National Centre for Excellence in Youth Mental Health, Melbourne, Australia*
[2] *Centre for Youth Mental Health, The University of Melbourne, Melbourne, Australia*

Background: People with mental illness in Australia are at a severe disadvantage when it comes to engaging in the labour market and participating in employment. Those with more severe illnesses, such as psychosis and personality disorder are more likely to be unemployed. At the same time, people with mental illness constitute the largest and fastest growing disability group in receipt of the disability support pension (DSP). This has been a long-standing problem. Recent policy announcements have signalled reform in relation to access to the DSP. In particular this is likely to significantly effect young people with mental illness. **Methods:** A review of the current policy settings relating to people with mental illness, education and employment was undertaken. **Results:** A number of policies and incentives exist in the current system that do not assist people with mental illness to enter or re-enter the workforce. Further, there is very little that systematically deals with education which is the basis of employment competitiveness and a known protective factor against unemployment. **Conclusion:** Significant change is required in order to realise the government's stated policy goal of reduced reliance on the DSP and the goal of people with mental illness to work. The missing element is an evidence based bridge to participation in employment and education for people with mental illness. This presentation will elucidate the findings of our report and present recommendations for the creation of such a bridge.

Thursday, Leigh Whicker Room, 1520-1650

Fostering translational psychiatry careers in the 21st century

Harris A Eyre[1,2,3], Bernhard T Baune[1], Malcolm Forbes[3], Julio Licinio[4], Steven Moylan[5], Pat McGorry[6]

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[2]*Department of Psychiatry and Semel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, United States of America*
[3]*School of Medicine and Dentistry, James Cook University, Townsville, Australia*
[4]*Mind and Brain Theme, South Australian Health and Medical Research Institute and Department of Psychiatry, School of Medicine, Flinders University, Adelaide SA 5001, Australia*
[5]*IMPACT SRC, Deakin University, Geelong, Australia*
[6]*Centre for Youth Mental Health, The University of Melbourne, Melbourne, Australia*

Background: A number of significant issues face our global community in the 21st century. Populations are aging, leading to increased incidence of cognitive decline and dementias, along with associated economic burdens. Rates of major depressive disorder are also increasing with associated societal and economic burdens. Psychiatric treatments suffer from modest efficacy, and a grievous gap between the explosion of knowledge in neuroscience and novel treatments for patients. Taken together, fostering greater educational and workforce investment in translational clinical-academic careers in psychiatry is highly important for the future. This symposium aims to outline the importance of translational psychiatry careers from a variety of perspectives, and will make recommendations for further increasing involvement in these careers. **Methods:** All presentations within this symposium utlised Google Scholar, PubMed and ScienceDirect to search peer-reviewed papers and also explored grey literature via Google (e.g. governmental reports). Keywords include: academic medicine, translational psychiatry, clinician-scientist, clinical-academic, psychiatric research, education, mentor and career. **Results:** In considering the importance of translational psychiatry careers, there are a variety of issues. Outlining a workable definition of translational medical careers is important and is outlined. In brief, translational careers afford doctors the ability to effectively translate discoveries within the pathway from discovery to global health, inclusive. Exploring the roles and opinions of various stakeholders in the education, training and support of prospective clinical-academics is key. This symposium explores perspectives from medical students, residents, registrars, consultants, professors and executives. International and national peer-reviewed data is explored. Innovative strategies are required to motivate medical students, resident doctors and psychiatry registrars towards clinical-academic careers. This symposium will explore the need for robust mentorship structures, curriculum design modifications, structured training programs, and health service structural and funding modifications. **Conclusion:** The need for greater involvement in translational psychiatry careers is great. Work is required to better understand the enablers and barriers towards these careers across the medical training continuum. A variety of stakeholders must be engaged in discussions. The authors of this symposium will publish the findings in a Position Statement for the Australasian Society for Psychiatry Research.

PRESENTER 1

Translational psychiatry careers: what is the definition, why are they important, who are the stakeholders?

Bernhard T Baune[1], Harris A Eyre[1,2,3]

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[2]*Department of Psychiatry and Semel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, United States of America*
[3]*School of Medicine and Dentistry, James Cook University, Townsville, Australia*

Background: Psychiatry has suffered tremendously by the limited translational pipeline from bench-to-bedside. The discovery in 1961 of monoamine reuptake by pre-synaptic neurons still forms the basis of the majority of current antidepressant treatments. There is a substantial gap between neuroscience knowledge and novel treatments. This presentation will introduce the symposium by providing a working definition of translational psychiatry, setting the scene on the importance of translational psychiatry and outlining key stakeholders involved in careers and training in this area. **Results:** The working steps of translational which will be considered within this symposium include: 1) discovery (via pre-clinical, clinical and epidemiological science), 2) bench to bedside, 3) bedside to clinical applications (clinical trials), 4) translational to policy and health care guidelines, 4) assessment of health policy and usage, and 5) global health. Translation can occur both up and down these steps, it does not have to be linear. All areas of medical research contribute to this area, including molecular biology, genetics, pharmacology, imaging, epidemiology and immunology. Key stakeholders include medical educators across the continuum of training, health systems, universities and research institutes, governments and industry. **Conclusion:** Translational psychiatry is an important field requiring further development. There appears to be a paucity of data and sources exploring methods of enhancing workforce development in this area.

PRESENTER 2

International perspectives on translational medicine and translational psychiatry

Julio Licinio[1]

[1]*Mind and Brain Theme, South Australian Health and Medical Research Institute and Department of Psychiatry, School of Medicine, Flinders University, Adelaide SA 5001, Australia*

Background: Translational medicine has become a global priority, but there is still a major gap between the arrival of new treatments and the investment that many countries have made on this front. Although understanding of biological mechanisms is on the rise, the process of translating fundamental knowledge to the clinic remains disappointing. This presentation will outline global moves to develop the field of translational medicine and psychiatry. **Results:** Translation between these neuroscience findings and novel treatments has been termed the 'valley of death'. Major systemic issues in this area include: silos between health care, industry and researchers; an inappropriate focus on industry-led research; lack of effective metrics to decide upon career advancement, and; an inadequate translational physician scientist workforce. These issues have led to a variety of international developments including the development of professional societies, academic journals, opportunities to integrate health care, academic and industry, university degrees and advocacy to explore better integration across the translational continuum. **Conclusion:** Renewed attention is being placed on translational medicine and psychiatry. There are a variety of international efforts underway to strengthen and develop these fields, and workforce development is key.

PRESENTER 3

Developing clinical-academic skills and knowledge for medical students and residents

Malcolm Forbes[1] Harris A Eyre[1,2,3]

[1]*School of Medicine and Dentistry, James Cook University, Townsville, Australia*
[2]*Discipline of Psychiatry, University of Adelaide, Adelaide, Australia*
[3]*Department of Psychiatry and Semel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, United States of America*

Background: If the aim is to encourage more psychiatrists and trainees into clinical-academic careers, then awareness and positive regard for such careers must begin in medical schools. One third of Australian medical graduates are interested in becoming involved in research and over half express an interest in teaching. One in five hold either an honours degree or postgraduate certificate, and a further eight per cent hold either a master degree or PhD qualification. This presentation will explore the role of medical student and resident education in shaping the future clinical-academic workforce. **Results:** Despite the above-mentioned interest from medical students in the earlier years of medical school, medical students and residents have misconceptions about what a career in academic medicine involves, and there are system-based barriers to a career in research and education. Medical students cite the absence of a clear career path and time pressures as concerns when considering a research career, and many do not want to take up research options that extend the length of their studies. There are a range of initiatives which may encourage medical students and residents to engage. Examples include: offering research electives, non-compulsory academic rotations; intercalated research and higher degrees in related fields alongside the MBBS or MD; offering competitive scholarships for those who wish to pursue a higher research degree; and, promoting publications which showcase undergraduate junior research and introduce junior authors to scientific publishing. Examples of specific national and international programs will be discussed. **Conclusion:** Exposure of medical students and resident doctors to positive, supported experiences in clinical-academia is key to enhancing the Australasian clinical-academic workforce.

PRESENTER 4

A trainee perspective on developing clinical-academic pathways in psychiatry

Steven Moylan[1], Harris A Eyre[2,3], Malcolm Forbes[4]

[1]*IMPACT SRC, Deakin University, Geelong, Australia*
[2]*Discipline of Psychiatry, University of Adelaide, Adelaide, Australia*
[3]*Department of Psychiatry and Semel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, United States of America*
[4]*School of Medicine and Dentistry, James Cook University, Townsville, Australia*

Background: Psychiatry trainees and relevant stakeholders are key to developing a future translational, clinical-academic psychiatric workforce. Unfortunately, interest in a clinical academic career decreases as trainees' transition from prevocational to vocational training. This has been attributed to several factors including a lack of structured opportunities for research, difficulty combining meaningful research with the demands of clinical training, family and financial pressures, inadequate recognition, poorer career opportunities, financial rewards and job security when compared to clinical practice. This presentation will outline programs to support psychiatry trainees into clinical-academic careers. **Results:** Autonomy in choice of academic work, relevance to vocational training, attainment of a higher degree, protected academic time and flexible entry and exit points can positively influence a trainee's decision to combine academic study with postgraduate and specialist training. Any clinical academic pathway must provide trainees with sufficient time to consolidate clinical skills and achieve clinical competencies whilst undertaking research or academic study. Junior and senior clinical academic fellowships and lectureship positions in partnership with universities and medical colleges will allow trainees to complete vocational training requirements whilst undertaking further research, teaching or post-doctoral training. Strong mentorship, flexible entry and exit points, rewards schemes and supportive academic environments are critical. **Conclusion:** Innovation in vocational and post-vocational training is key to enticing and retaining the psychiatry trainee workforce into clinical-academic careers.

PRESENTER 5

Exploring the role of senior academics, executives and thought-leaders in supporting clinical-academic pathways in psychiatry

Pat McGorry[1]

[1]*Centre for Youth Mental Health, The University of Melbourne, Melbourne, Australia*

Background: Consideration of modifications to training structures to enhance clinical-academic pathways is important, but professional investment and leadership from senior clinical-academics, executives and thought-leaders is the most integral facet of development in this area. This presentation will explore the role of senior clinical-academics, executives and thought-leaders in enhancing clinical-academic careers in psychiatry. **Results:** Key methods to enhance translational, clinical-academic pathways are numerous. Modification of enablers throughout the continuum of training are important, such as: flexible entry and exit points, strong mentors and role models, appropriate rewards and incentives, modification of research culture. Stakeholders which need to be engaged include medical schools, health and hospital boards, universities, private research organisations, accreditation bodies, medical colleges and politicians. Other key components include: well-structured and well-funded consortia, creation and expansion of dedicated translational research centers and institutes and effective commercialisation of novel findings. Integration between academia, health services and industry can be created effectively by development of further academic health science centres. Lobbying of governments and philanthropists is also relevant to secure funding and support. **Conclusion:** Developing further interest and engagement in clinical-academic careers in psychiatry is complex and requires a multi-factorial approach from senior academics, executives and thought-leaders.

Thursday, SACA Boardroom, 1520-1650

Advancing psychiatric research via interagency linkage of population records: national and international examples

Kristin R. Laurens[1,2], Melissa J. Green[1,2]

[1]*School of Psychiatry, University of New South Wales, Sydney, Australia*
[2]*Schizophrenia Research Institute, Sydney, Australia*

Background: Linkage infrastructure, and accompanying legislation to permit linkage of population records, is now available in multiple Australian states. Record linkage methods transform routinely collected population data on individuals into a powerful tool for research while stringently protecting privacy. This symposium illustrates the utility of these methods by showcasing five studies (from Western Australia, New South Wales, and Denmark) that employ linkage to investigate diverse psychiatric issues. **Methods:** The presentations will illustrate unique advantages offered by linkage methodology: (i) maximization of study samples to the population level; (ii) access to anonymised records without the need to obtain individual consent (reducing bias introduced by subgroups that are difficult to access or cannot provide informed consent); (iii) capacity to investigate rare outcomes or exposures and their association with robust statistical power; (iv) minimization of information bias due to all variables being collected prospectively by individuals with no knowledge or association with subsequent research. The researchers will also describe their consideration of potential limitations of linkage methodology: (i) use of data collected primarily for administrative (versus research) purposes (e.g., restricting potential confounders available for consideration, and introducing potential misclassification errors); (ii) potential selection bias inherent when data collection coverage is restricted (e.g., public versus private health records); and (iii) changes in data collection and recording practices over time. **Results:** Study findings span forensic, substance use, and child development issues in psychiatry, using longitudinal and cross-sectional designs. **Conclusion:** Record linkage provides a powerful tool enabling both new studies and augmentation of established research investigations.

PRESENTER 1

Linking study samples to population registers: augmenting findings from a Danish RCT of early intervention in psychosis

Kimberlie Dean[1,2]

[1]*University of New South Wales, Sydney, Australia*
[2]*Justice Health & Forensic Mental Health Network, Sydney, Australia*

Background: The study findings obtained from individual research samples can be potentially augmented by linking individuals within a sample to independent population-based registers or databases. OPUS, an RCT of assertive specialized treatment for those with first episode psychosis was conducted in Denmark between 1998 and 2000. The impact of such an intervention on criminal offending was later examined by linking the study sample to Danish national register data. **Methods:** Participants in the OPUS RCT of assertive specialized treatment for first episode psychosis were linked via their unique identifier to a range of national registers. Data was obtained from both the original study database and the linked registers, with the primary outcome being criminal, including violent, conviction. Survival analysis was used. **Results:** The intervention was not found to have any impact on the risk of offending or on the frequency of offending. Although study attrition at five years was reported to be 45% in the original trial, linking the sample to national registers to examine offending as an outcome enabled complete follow-up of participants. Linkage to national register data also enabled the representativeness of the original sample to be examined. **Conclusion:** Although assertive specialist intervention in early psychosis is known to have clinical and other benefits, it does not appear to reduce risk of offending, at least when applied universally. Interventions focused on specific criminogenic needs and/or applied to high risk subgroups should be considered. This study demonstrates some of the benefits of linking study samples to population register data.

PRESENTER 2

Risk of offending in the offspring of mothers with severe mental illness

Giulietta Valuri[1], Frank Morgan[2], Assen Jablensky[1], Vera Morgan[1]

[1]*School of Psychiatry and Clinical Neurosciences, University of Western Australia, Perth, Australia*
[2]*Crime Research Centre, University of Western Australia, Perth, Australia*

Background: Previous studies have shown an increased risk of criminal offending by persons with severe mental illness (SMI). Some suggest other risk factors may be associated with the increased risk. This paper investigates risk of offending and offending patterns in offspring of mothers with SMI compared to offspring of mothers with no recorded psychiatric illness. **Methods:** This is part of a record-linked population-based study of 467,945 people born in Western Australia (WA) 1980-2001 to mothers with SMI and mothers with no recorded psychiatric illness. These data were linked to WA corrective services data producing a dataset of 18,579 people with at least one offence (4% of birth cohort). Cox proportional hazards was used to calculate incidence rate ratios (IRR) of offspring offending. **Results:** Offspring of mothers with SMI (cases) had higher rates of offending than offspring of mothers with no recorded psychiatric illness (IRR 2.56, 95%CI 2.43-2.70). The effect was lower once adjusted for sex, race and low socioeconomic status (IRR 2.01, 95%CI 1.90-2.12). Paternal mental illness and paternal offending were also shown to contribute to higher rates of offending in case offspring. Overall males had a higher rate of offending than females but the effect of maternal SMI was higher in females (IRR 2.8 vs IRR 2.5). **Conclusion:** Analysis shows that offspring of mothers with SMI have an increased risk of offending, but this risk decreases when adjusting for socioeconomic and other factors. Linkage to other datasets will allow us to explore the impact of other adverse exposures.

PRESENTER 3

Maternal psychosis, obstetric complications, and early neurodevelopmental outcomes

Patsy Di Prinzio[1], Thomas McNeil[2], Jonas Bj**ö**rk[2], Assen Jablensky[3], Maxine Croft[1], Vera Morgan[1]

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Background: Recent evidence points to partially shared genetics of neuropsychiatric disorders. Previous work has identified that children of mothers with psychotic illnesses are at significantly increased risk of developing intellectual disability. Prima facie evidence exists that familial and obstetric factors also contribute independently to the risk. We investigate joint contributions of all these factors. **Method**: Record linkage across Western Australian population-based registers identified children born 1980-2001 as high risk (those of mothers with psychosis (n=15,486)), or comparison (those of mothers with no history of mental illness (n=452,459)). Risk of developing intellectual disability was assessed in the context of maternal psychiatric status (comparison, schizophrenia, bipolar disorder, unipolar major depression, and other psychoses), obstetric complications (McNeil-Sjöström Scale for Obstetric Complications applied to midwives' record of birth), paternal psychiatric status, parental intellectual disability status, and other relevant familial and socio-demographic covariates. **Results:** The risk of developing intellectual disability was increased for high risk children, differentially across maternal diagnoses. Unadjusted OR (95%CI) for children of mothers with schizophrenia, compared to children of comparison mothers, was 3.8 (3.0-4.8). OR remained significant 1.8 (1.4-2.3) after adjustment for all relevant covariates. Exposure to obstetric complications, parental intellectual disability status, paternal psychiatric status, and some familial and socio-demographic factors were observed to affect the risk. Preliminary results suggest some factors, including maternal intellectual disability status, effect risk differentially across maternal diagnostic categories. **Conclusion** Our findings support accumulating evidence that phenotypically different neuropsychiatric disorders cluster within families and point to the contribution of both familial and environmental risks.

PRESENTER 4

Hospital admission for infections during early childhood and developmental vulnerabilities at age 5 years: evidence from the New South Wales Child Development Study

Vaughan J. Carr[1,2], Alessandra Raudino[1,2], Enwu Liu[1], Melissa J. Green[1,2], Kristin R. Laurens[1,2], Rhoshel K. Lenroot[1,2,3], Sally A. Brinkman[4], Felicity Harris[1,2]

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Background: There is considerable evidence suggesting a role for childhood infectious diseases in the development of later psychopathology. Schizophrenia and other psychoses, depression, and behavioral problems have all been associated with a variety of pre- and perinatal infections. This study tested the association between hospital admission for infectious disease during early childhood (birth to 4 years) and psychological vulnerabilities at 5 years of age. **Methods:** A matched case-control study, nested within the New South Wales (NSW) Child Development Study cohort, was conducted. The initial cohort comprised 87,026 children (99.9% of population) whose teachers completed the Australian Early Development Census (AEDC) in 2009. Conditional logistic regressions assessed the relationship between exposure to infections (NSW Admitted Patient Data Collection) and childhood vulnerabilities in social, emotional, language/cognitive, communication, and physical functioning (AEDC). Models were adjusted for confounding factors related to the perinatal period (NSW Perinatal Data Collection), exposure to family maltreatment (NSW Family and Community Services Child Protection Data Collection) and child characteristics. **Results:** Multiple types of infections (viral, other, and non-CNS, though not bacterial) were associated with developmental vulnerabilities in all five developmental domains. Viral and other infections were most strongly predictive of vulnerabilities on the AEDC. The associations between childhood exposure to infections and developmental outcomes held similarly for males and females. **Conclusion:** Early infections have a pervasive effect on children's social, emotional, language/cognitive, communication, and physical functioning in their early years. Further research should investigate the pathway from infections to later mental health problems.

PRESENTER 5

Impacts of stimulant comorbidity in schizophrenia: a study using linked NSW health data

Grant Sara[1-3], Philip Burgess [3]

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[2]*Sydney Medical School, University of Sydney, Australia*
[3]*School of Population Health, University of Queensland, Brisbane, Australia*

Background: Stimulants are the most commonly used substances after cannabis, and can worsen psychosis. Their impacts on people with schizophrenia are difficult to examine in clinical studies, because of their overlap with cannabis use. Population-wide linkage of health data may help to disentangle the effects of stimulants from those of cannabis. **Methods:** New South Wales hospital, community mental health, and emergency department data were examined over five years in 13,624 people with a diagnosis of schizophrenia. Data collections were linked using a State Unique Patient Identifier. **Results:** 51% of people with schizophrenia had substance use disorders (cannabis 29%, stimulants 14%). Cannabis disorders were more common in younger males and rural areas. Stimulant disorders were associated with older age, less gender imbalance, and urban location. Harms of cannabis and stimulants appeared additive: people with both cannabis and stimulant disorders were more likely to have frequent mental health admissions (59%), frequent Emergency Department presentations (52%), admissions with injury or self-harm (44%), infectious disease diagnoses (22%), multiple changes of residence (61%), movement to more disadvantaged locations (42%), and periods of homelessness (18%). People with stimulant disorders alone had higher rates of self-harm, infectious disease and physical health admissions than people with cannabis disorders alone. **Conclusion:** Stimulant use disorders are common in people with schizophrenia and are likely to contribute to the burden of psychosis. Data linkage approaches may complement clinical studies when examining important but highly confounded issues such as stimulant abuse and dependence.

PRESENTER 6

Do CTOs keep people out of hospital?

Anthony Harris[1,2], Joseph Garside[2], Grant Sara[1,3]

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[2]*Brain Dynamics Centre and Westmead Millennium Institute, Sydney, Australia*
[3]*InforMH, Mental Health and Drug and Alcohol Office, NSW Ministry of Health, Sydney, Australia*

Background: The use of community treatment orders (CTO) to enforce involuntary community treatment has been a source of considerable debate in Australia and internationally. Several large cohort studies have found that CTOs reduce re-hospitalization rates for individuals compared with their pre-CTO baselines. However three randomised controlled trials have produced conflicting results. In this study we examine the effectiveness of CTOs in New South Wales (NSW), a state of Australia, using a large population-based sample with sufficient power to control for demographic and diagnostic variables as well the pattern and intensity of care prior to CTO initiation. **Method**: All persons (n=8961) receiving CTOs in NSW from the Mental Health Tribunal (n=26972 orders) over the period 2003-2009 were identified. Inpatient and community mental health care in the 30 months prior to each individual's first CTO was compared with service use during and after CTO initiation using the Health Information Exchange that records all admissions and outpatient care within the public mental health services. Case controls were identified using propensity score matching on demographic, clinical and prior care variables. Impact of CTOs on re-hospitalisation was examined using repeated measures survival analysis. **Results**: Compared to a pre-CTO baseline period, CTOs were associated with increased community care and reduced hospital admission. These impacts were greatest in people with high levels of inpatient care and low levels of community care prior to their first CTO. **Conclusion**: CTOs are effective in preventing re-hospitalisation, however this assumes the availability of community care.

Thursday, Conference Dinner Speaker

Can history assist in 'Bridging the gap'?

Bob Goldney[1]

[1]*Emeritus Professor, Discipline of Psychiatry, University of Adelaide*

Could an appreciation of history assist us in 'Bridging the gap'? An appreciation of the history of the delineation and management of mental disorders may be of value for a number of reasons. These include (but are not limited to) the establishment of the provenance of ideas; it can provide a counter-balance to contemporary hubris; and, perhaps most importantly, it may be not only interesting, but also useful in providing additional stimulus in 'Bridging the gap'.

FRIDAY ABSTRACTS

Friday, William Magarey East, 0815-1010

Gene-environment interactions and experience-dependent plasticity in animal models of mental illness

Terence Pang[1], Thibault Renoir[1], Christina Mo[1,2], Xin Du[1], Annabel Short[1,4], Emma Burrows[1], Caitlin McOmish[1,3], Anthony Hannan[1,4]

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[2]*Department of Neurobiology, University of Chicago, Chicago, USA*
[3]*Sackler Institute for Developmental Psychobiology and Department of Psychiatry, Columbia University, New York, USA*
[4]*Department of Anatomy and Neuroscience, University of Melbourne, Parkville, Australia*

Background: One of the great challenges of mental health research is to determine how complex combinations of genetic and environmental factors contribute to predispositions for particular psychiatric disorders. We have investigated the role of gene-environment interactions and experience-dependent plasticity in the pathogenesis of psychiatric disorders, including schizophrenia, depression, autism spectrum disorder and the psychiatric manifestations of Huntington's disease. **Methods:** Wild-type and mutant littermate mice were randomised into standard housing or environmental enrichment, a condition of enhanced novelty and complexity which increases opportunities for cognitive stimulation and physical activity. In additional experiments, other environmental manipulations were used, including exercise on running wheels (increasing levels of voluntary physical activity) and stress interventions (including oral administration of stress hormone). A full battery of behavioural tests was performed on the mice, including touchscreen assays of learning, memory and various cognitive endophenotypes. Further experimental approaches, including behavioural pharmacology, neurophysiology and gene expression assays, were used to investigate potential mechanisms. **Results:** We have demonstrated that environmental enrichment can selectively improve a range of endophenotypes, in various models of psychiatric disorders. In specific cases, exercise interventions were used to parse the relative contributions of cognitive stimulation and physical activity. Further insights into gene-environment interactions have been provided by stress interventions, supporting a 'decanalization' model of psychiatric disorders with neurodevelopmental etiology. We have provided insights into potential molecular and cellular mechanisms mediating the beneficial effects of cognitive stimulation and physical activity. Whilst existing molecular candidates such as brain-derived neurotrophic factor (BDNF) are supported by our data, various additional signalling pathways are also implicated, providing a plethora of potential therapeutic targets. **Conclusion:** This experimental approach allows us to model gene-environment interactions of relevance to psychiatric disorders and may also inform the development of 'enviromimetics', drugs that mimic or enhance the beneficial effects of enhanced cognitive activity and physical exercise.

Profiling experiences after Cannabis

Emma Barkus[1]

[1]*University of Wollongong, Wollongong, Australia*
[2]*Royal Brisbane Hospital, Brisbane, Australia*

Background: Cannabis appears to be a component cause of schizophrenia. That is, in those at risk for developing the disorder, cannabis acts as a trigger to exacerbate underlying predisposition. However, the exact nature of the relationship between cannabis and psychosis has proved elusive. Rather than focusing on the association between cannabis use and psychosis risk, an alternative approach is to examine the experiences reported after using cannabis. For as long as cannabis has been used recreationally, there have been documented individual differences in the experiences reported. The author proposes that the experiences during cannabis use are a reflection of any underlying psychological vulnerabilities. Given that cannabis is a pharmacologically 'dirty' drug, it has the potential to exacerbate any pre-existing dysfunctions in neurotransmission. **Methods:** Risk factors for psychosis may be more readily examined in those from the general population who have a hypothetical risk for developing psychosis; detection of these individuals can take place using the personality trait schizotypy. **Results:** Those who score highly on putative markers of psychosis risk, such as schizotypy, report more psychotic-like experiences in the immediate high from cannabis as well as more after effects. Additionally, subtle cognitive deficits also appear to differentiate those prone to psychotic-like experiences from those who have primarily pleasurable experiences after cannabis. New data will be presented demonstrating a relationship between everyday cognitive slips and failures and cannabis experiences. The relationship between schizotypy, everyday cognitive slips and failures and experiences after cannabis will be outlined. Patterns of cannabis use appear to influence these variables. **Conclusion:** This talk will conclude it is possible to identify those in the general population who may be prone to the detrimental effects from cannabis. This information could be used to provide psycho-education for young people which places them in greater control of their own mental health.

Opportunities for improving the quality use of medicines in people with dementia

J Simon Bell[1]

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Quality of medicines (QUM) is a core component of Australia's National Medicines Policy. People with dementia have a high prevalence of comorbid conditions, such as diabetes, heart disease or pain. Up to 90% of people with dementia use five or more medicines. Polypharmacy is associated with frailty, impaired physical function and falls. Sedative and anticholinergic medicines are widely prescribed to people with dementia. Pharmacoepidemiological analyses of data from Australian and international cohort studies suggest that sedative and anticholinergic medicines increase the risk of frailty, hospitalisation and mortality. Optimising medicine use is a complex process that involves both prescribing medicines that are beneficial and deprescribing (withdrawing) medicines that are potentially inappropriate. Explicit criteria for potentially inappropriate medicine use are valuable to highlight issues concerning medication selection. However, most explicit criteria do not consider peoples' life expectancies, treatment goals and the under-prescribing of clinically indicated medications. Use of pharmacological risk assessment tools (e.g. Sedative Load, Drug Burden Index) may assist clinicians to identify people at risk of medicine-related problems. Active learning sessions for nurses and aged care workers may minimise inappropriate medicine use, maintain health-related quality of life and reduce hospitalisation. Home Medicines Reviews and Residential Medication Management Reviews are evidence-based strategies to reduce use of sedative and anticholinergic medicines. A multidisciplinary and multifaceted approach is needed to improve medicine use in people with dementia. Stakeholder involvement in QUM initiatives is important to facilitate local uptake and encourage further research into the effects of medicines on health outcomes important to older people.

Understanding disease models and treatment opportunities for cognitive dysfunction and depression from using the framework of research domain criteria

Roger S. McIntyre[1, 2]

[1]*University Health Network, Head of Mood Disorders and Psychopharmacology Unit*
[2]*University of Toronto*

Background: Cognitive dysfunction is a convergent phenotype across a range of mental disorders including but not limited to mood disorders. The pertinence of cognitive dysfunction is underscored by evidence indicating that it is a principle determinant of health outcomes in adults with major depressive disorder and bipolar disorder. During the last several years, there has been emerging evidence that metabolic and inflammatory targets in the central nervous system may represent novel mechanistic approaches to treating and preventing cognitive dysfunction. **Methods:** This presentation will provide a background and rationale for targeting metabolic and inflammatory systems in adults with major depressive disorder where in the principle aim is to improve cognitive function. **Results:** Results from completed, ongoing, and existing interventional proof-of-concept studies for intranasal insulin, minocycline, and infliximab as possible treatments for cognitive dysfunction in mood disorders will be presented. **Conclusion:** There's no existing agents that has been FDA approved for cognitive dysfunction in adults with mood disorders. An unmet beed is to find treatments that can reverse cognitive function in this population. Available evidence indicates that targeting in metabolic and inflammatory systems represent novel and possibly disease-modifying approaches.

Vitamin D signalling and brain function in adults

Thomas H.J. Burne[1,2]

[1]*Queensland Brain Institute, Brisbane, Australia*
[2]*Queensland Centre for Mental Health Research, Wacol, Australia*

Background: Vitamin D deficiency is prevalent throughout the world and there is growing evidence to support a requirement for optimal vitamin D levels for the healthy developing and adult brain. There are an increasing number of epidemiological studies indicating that vitamin D deficiency is associated with a wide range of neuropsychiatric disorders and neurodegenerative diseases. In my talk I will outline our recent experimental evidence in rodents where we have examined the effect of suboptimal vitamin D levels in adult rats and mice. **Methods**: Adult vitamin D (AVD) deficient rodents are exposed to hypovitaminosis D from 10 weeks of age. Under these conditions the animals have normal calcium levels for at least 20 weeks on the vitamin D-deficient diet. We have assessed a wide range of behavioural and neurochemical outcomes with a particular focus on cognitive and depressive-like behaviours, neuroprotective pathways and GABAergic dysfunction. **Results:** Our data suggest that AVD deficiency is associated with a downregulation of GAD 65/67, a precursor for GABA synthesis, and an altered balance of excitatory and inhibitory neurotransmitters. In addition we have shown that AVD-deficiency is associated with changes in pathways related to protein transport, cell surface receptors, glutathione metabolism and amino acid metabolism. We have also shown subtle changes in discrete behavioural domains, including anxiety-related behavior and cognitive performance. **Conclusion:** These findings provide compelling evidence that low concentrations of vitamin D impact on adult brain neurochemistry and behaviour. In particular our data suggest that vitamin D deficiency during adulthood may exacerbate underlying brain disorders, and/or worsen recovery from brain stressors. This research could ultimately have important implications for a wide range of adverse psychiatric and neurological outcomes.

Friday, William Magarey East, 1030-1200

Diet and the depressed diabetic: new insights from post-hoc analyses of the US National Health and Nutrition Examination Study

Joanna Dipnall[1,2], Julie A Pasco[1,3], Denny Meyer[2], Michael Berk[1,4,5,6], Lana J Williams[1,4], Seetal Dodd[1,4], Felice N Jacka[1,4,7,8]

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[7]*Centre for Adolescent Health, Murdoch Children's Research Centre, Melbourne, Australia*
[8]*Black Dog Institute, Sydney, NSW*

Background: Type 2 diabetes is a high-prevalence chronic disease that is commonly comorbid with depression. Current guidelines for managing diabetes emphasise the importance of healthy eating. The relevance of diet to the risk for common mental disorders has also been highlighted in recent research. The aim of this study was to investigate the interrelationship between dietary patterns, diabetes and depression. **Methods:** Data were integrated from the National Health and Nutrition Examination Study (2009-2010) using DIPIT[1]. Adults aged 18+ (n=4,588, Mean age=43yr) were included, with depression measured by the Patient Health Questionnaire-9. Diabetes was identified by self-report, usage of diabetic medication and/or fasting glucose levels ≥126 mg/d and a glycated hemoglobin level ≥6.5%. Data derived from a 24-hour dietary recall formed five dietary patterns using exploratory factor analysis. Multiple logistic regression was employed, with depression the outcome, and dietary patterns and diabetes the predictors. Covariates included gender, age, marital status, education, race, adult food insecurity level, ratio of family income to poverty, and serum C-reactive protein. **Results:** Five dietary patterns were revealed (healthy; unhealthy; sweets predominant; Mexican style; and breakfast type diets) explaining 39.8% of total variance. Only two dietary patterns were found to be significantly related to depression: healthy and sweets predominant patterns. The healthy dietary pattern was associated with reduced odds of depression for those with diabetes (OR 0.68, 95% CI [0.52, 0.88], p=0.006) and those without diabetes (OR 0.79, 95% CI [0.64, 0.97], p=0.029) (interaction p=0.048). The positive relationship initially observed between the sweets dietary pattern and depression was fully explained by diabetes status. **Conclusion:** In this study, a healthy dietary pattern was associated with a reduced likelihood of depression, particularly in people with type 2 diabetes. This finding suggests that adhering to healthy dietary recommendations is particularly important for avoiding depression in those with diabetes.

References:

1. Dipnall JF, Berk M, Jacka FN, Williams LJ, Dodd S, Pasco JA. Data Integration Protocol In Ten-steps (DIPIT): A new standard for medical researchers. Methods. Jul 12 2014

Avoidant personality disorder: time for a re-think?

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Background: Since its inception in DSM-III there have been questions over whether avoidant personality disorder (AvPD) is a distinct syndrome. Its criteria overlap with those of social phobia (SP) and it has proven difficult to apply AvPD to patients seen in clinical practice. The prevailing continuity model proposes AvPD as a more severe variant of SP. However, previous research suggests that individuals with AvPD without SP may be no more distressed or impaired than those with SP without AvPD. An alternative hypothesis is that individuals may have traits that predispose to excessive social anxiety, and that the timing and nature of experiences with caregivers in childhood may influence the phenotypic expression of disabling levels of social anxiety. **Aim:** This research reports preliminary self-report data on variables associated with AvPD. **Methods:** Individuals with 'severe shyness' were sought via advertisements in university student broadcasts and research and clinical newsletters. Participants completed self-report measures of self-esteem, temperament, social concerns, attachment style and adverse experiences in childhood, the CIDI-Auto diagnostic instrument, and a clinician-administered diagnostic interview for personality disorder (the IPDE), after which they were classified into three groups for analysis: SP alone, AvPD alone and SP+AvPD. **Results:** Qualitative review of questionnaire results and participant interviews indicates that there are important differences in the nature of social concerns, and self-concept relevant to establishing close interpersonal relationships that might justify categorical distinctions, but that these differences do not correspond well with current criteria. **Conclusion:** Initial findings from this small preliminary study suggest there may be a group of individuals with a distinct pattern of severe and disabling interpersonal anxiety, but that the characteristics that would enable them to be distinguished from persons with SP are not well captured by current diagnostic criteria. Changes are suggested that might result in a more clinically relevant diagnostic category.

Testing the waters or diving straight in? A preliminary analysis of discussion board engagement in the moodswings online intervention for bipolar disorder (www.moodswings.net.au)

Emma Gliddon[1,2], Sue Lauder[2,3], Lesley Berk[1,2], Michael Berk[1,2]

[1] *Deakin University, Waurn Ponds, Australia*
[2] *The University of Melbourne, Parkville, Australia*
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Background: There is growing evidence supporting the use of online adjunctive psychosocial interventions in the treatment of bipolar disorder. Several studies to date have included peer discussion boards, however none of these studies have specifically evaluated the role these boards play in terms of outcomes and attrition, or the influence the level of participant engagement may have on psychosocial variables. This project assesses the MoodSwings 2.0 program, an online self-help program for bipolar disorder. The current project evaluates the impact of discussion board engagement on psychosocial outcomes as well as intervention adherence, and attempts to identify key differences between active and passive discussion board users. **Method:** This project involves a three-arm randomised controlled trial, comparing discussion board only, discussion board plus psychoeducation, or discussion board, psychoeducation, and interactive tools. Participants are aged 21 to 65, and diagnosed with bipolar disorder. Recruitment is ongoing, with an international sample target of 300. All participants have access to one of three moderated discussion boards with 100 participants allocated to each. Discussion board engagement is measured by quantity of posts and time spent reading posts. Active users are defined as "posters", while passive users are defined as "lurkers". Outcome measures are assessed quarterly both online and by phone. Other usage of the intervention is monitored by page views, entries within the interactive tools, and duration of page visits. **Results:** The results of a preliminary analysis on demographic variables and baseline assessment scores for the first 6 months of this study are presented. Levels of discussion board engagement are also analysed and discussed. A preliminary analysis of discussion engagement within each intervention arm is also presented. **Conclusion:** The results of these analyses will further clarify the contribution and possible benefits of discussion boards to mental health outcomes, and the impact on adherence to online interventions.

The structure of negative mood states: twin-study evidence for a causal influence of stress-tension on depression and anxiety

Christopher G. Davey[1,2] , Clara López-Solà,[3,4,5], Minh Bui[6], John L. Hopper[6], Christos Pantelis[2], Leonardo F. Fontenelle[7,8,9] , Ben J. Harrison[2]

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[7]*Programa de Transtornos Obsessivo-Compulsivos e de Ansiedade, Instituto de Psiquiatria, Universidade Federal do Rio de Janeiro (UFRJ), Brazil*
[8]*Instituto D'Or de Pesquisa e Ensino (IDOR), Rio de Janeiro, Brazil*
[9]*Instituto de Saúde da Comunidade, Universidade Federal Fluminense (UFF), Rio de Janeiro, Brazil.*

Background: Negative mood states are comprised of symptoms of depression and anxiety, and a third factor that consists of symptoms that are experienced in both. There remains contention about how this third factor is related to depressive and anxiety symptoms. The aim of the study was to examine the relationships between the three factors that comprise negative mood states in a large twin cohort. **Methods**: We conducted a study of 2,495 twins from the Australian Twin Registry who completed the Depression Anxiety Stress Scales (DASS), which assesses three factors that constitute negative mood states: depression, anxiety, and stress–tension (the latter related to feelings of tension and irritability). We examined the genetic and environmental structure of negative mood states using conventional multivariate twin modelling. We then applied a recently developed twin-regression methodology (ICE FALCON) to the MZ twin pairs to determine if any of the factors had causal influences on the other factors. **Results:** Classical twin modelling identified a latent variable that explained covariance among the DASS factors, with contributions from genetic and non-shared environmental influences explaining 42% and 58% of the variance, respectively. Stress-tension was found to be the factor most strongly associated with the latent variable. Causal inference modelling further characterised stress-tension as having significant causal influences on the depression ($p<0.0001$) and anxiety factors ($p<0.0001$), and there was evidence for the depression factor having a causal influence on the anxiety factor ($p=0.002$). **Conclusions** : Our findings demonstrate a critical role for stress-tension in the structure of negative mood states, and suggest that interventions that specifically target it may prove to be effective in reducing depression and anxiety symptoms, and hence the incidence of clinical disorders.

Distinguishing between unipolar depression and bipolar depression: a neuroimaging perspective

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[1] *University of Münster, Münster, Germany*
[2] *University of Marburg, Marburg, Germany*

Background: A major research goal is to identify neurobiological markers that can help differentiate unipolar depression (UD) and bipolar disorders (BD), especially in individuals presenting during depressive episodes. The goal of the present study was thus to identify the extent to which whole-brain gray matter abnormalities differentiated individuals with BD from those with UD. Furthermore, a novel multivariate pattern classification approach was employed to differentiate individuals with UD from those with BD. **Methods:** The present study included data from two independent sites, Pittsburgh (PI) and Muenster (MU), and the final sample comprised $N = 174$ participants. Each site contributed a BD, UD, and HC group of $n = 29$ subjects each. Morphometric analyses were applied using voxel-based morphometry (VBM). Additionally, a novel pattern-classification approach was employed to discriminate UD and BD while learning in one sample and testing in the "never seen" second sample by using Lib-SVM and GPC. **Results:** Findings were highly similar at both scanning sites: At both sites, Individuals with BD had reduced gray matter volumes in the hippocampal formation and amygdala compared to individuals with UD whereas individuals with UD showed reduced grey matter volume in the rostral anterior cingulate gyrus compared to individuals with BD. The pattern classification yielded up to 79.3 % accuracy rates ($p>0.01$) discriminating the two clinical groups at one site and up to 69.0 % accuracy ($p>0.01$) for learning in one sample and testing in the other. **Conclusion:** These results indicate different abnormalities in emotional processing relevant areas in individuals with BD and those with UD and might help differentiate pathophysiologic processes of UD versus BD. The pattern classification approach seems to be appropriate to discriminate UD from BD even over different sites despite of methodological limitations.

A direct test of the diathesis-stress hypothesis using polygenic risk scores

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[1] *Queensland Institute of Medical Research, Brisbane*
[2] *Queensland Brain Institute, UQ, Brisbane*

Background: The dominant model for the etiology of depression is the diathesis-stress model, whereby a person with high diathesis (predisposition, liability) who suffers high stress is at maximum risk, a person low on both diathesis and stress has least risk and other combinations are in between. In modern parlance we can think of diathesis as the polygenic risk score (PRS) and now these are available (albeit still with low power) we can test the hypothesis directly. **Methods**: We have GWAS for ~5000 adult twins measured for depression, neuroticism, and environmental risk factors including life events and social support. We used results from PGC-MDD to calculate PRS for MDD for the entire sample and fitted linear models predicting depression status as a function of PRS, neuroticism, life events, social support, and their interactions. All analyses take account of twin relatedness using Mx. **Results:** Preliminary results show significant main effects on depression for neuroticism, life events, and social support, and also for the MDD-PRS using all SNPs. However, interaction terms of PRS with life events and social support did not approach significance supporting an additive model for diathesis and "environmental" risk factors. **Conclusion:** There have been many previous tests of the diathesis-stress hypothesis but all have been limited by imperfect measures of diathesis, most commonly using the neuroticism score which we know can be influenced by depression state. Availability of PRS frees us from this confound and permits a direct test. However, remaining constraints are the extent to which the "environmental risk factors" are themselves pleiotropic manifestations of the same genes causing depression and, of course, power, particularly given that there are not yet any significant GWAS hits for MDD. Nevertheless, the question is worth asking and the answers will only get better as sample sizes increase.

Friday, SANFL, 1030-1200

The selective estrogen receptor modulators, raloxifene and tamoxifen, prevent dopaminergic-induced disruptions of prepulse inhibition

Andrea Gogos[1]

[1] *Florey Institute of Neuroscience and Mental Health*

Background: Evidence suggests that estrogen plays a protective role against the development and severity of schizophrenia. Although estrogen may be beneficial in treating schizophrenia, its chronic use is associated with side-effects. Selective estrogen receptor modulators (SERMs) may provide a better alternative to estrogen and be a safer treatment option for both men and women. Our previous research in rats, suggests that estradiol may protect against schizophrenia symptoms by acting on the dopaminergic system. Therefore, we propose that SERMs can also modulate the dopaminergic system, and that this modulation is the basis for their effects in schizophrenia. **Methods:** We investigated the effect of raloxifene and tamoxifen on dopaminergic-induced disruptions of prepulse inhibition (PPI). PPI is an operational measure of sensorimotor gating; this gating is a normal protective mechanism in the brain functioning to filter irrelevant information, allowing for coherent thought. Adult female Sprague-Dawley rats were either intact, ovariectomised (OVX), OVX and estradiol-treated, OVX and raloxifene-treated, OVX and tamoxifen-treated. **Results:** The dopamine D1/D2 receptor agonist, apomorphine (0, 0.1, 0.3 and 1mg/kg), caused the expected dose-dependent disruption in PPI in intact and OVX rats. However, this PPI disruption was prevented in OVX rats treated with estradiol, raloxifene or tamoxifen. In untreated OVX rats, average PPI was 55% after saline and 36% after 1mg/kg apomorphine treatment, a reduction of 19%. However, estradiol-treated and raloxifene-treated OVX rats showed only a 7% reduction in PPI, and tamoxifen-treated OVX rats had a 3% reduction in PPI caused by apomorphine treatment. **Conclusion:** The SERMs, raloxifene and tamoxifen, can prevent dopamine-induced disruptions in sensorimotor gating, similar to estradiol. This data lends support to the hypothesis that estrogen/SERMs play a protective role in schizophrenia via modulation of the dopaminergic system.

The P2X7-receptor antagonist A-804598 decreases anxiety-like behaviour post long term unpredictable chronic mild stress

Franky So[1], Catherine Toben[1], Catharine Jawahar[1], Bernhard T Baune[1]

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Background: Long term unpredictable chronic mild stress (uCMS) is associated with the development of depression and anxiety disorders and is accompanied by neuroimmunmodulation. The NLRP3-inflammasome is considered to be one of the intracellular stress sensor enabling immune cells to respond to stress signals. Within our long term uCMS mouse model we administered the highly specific P2X7receptor antagonist A-804598 to investigate changes in anxiety and depressive–like behaviours and neuroimmodulation in response to uCMS. **Methods:** C57BL/6NHsd mice were randomly allocated into 6 different treatment groups in 2 batches. Batch 1 tested the effects of long term uCMS without any intervention (non-uCMS/uCMS). Batch 2 included non-uCMS-vehicle/A-804598 and uCMS-vehicle/A-804598. All uCMS groups underwent an 8 week stress battery. In batch 2 mice were injected ip daily with 25mg/kg A-804598 or vehicle for 21 days. After 8 weeks mice were tested in a behavioral battery consisting of Elevated Zero Maze (EZM) and Forced Swim Test (FST). Serum was collected for corticosterone ELISA analyses. Real time qPCR was carried out for *Nlrp3*, *Casp1*, *Il1*β *Il18* and *P2x7r* from hippocampal lysates. **Results:** uCMS-vehicle had decreased number of head dips in EZM compared to uCMS suggesting a stress effect of injections ($p=0.024$). uCMS-A-804598 showed increased number of head dips in EZM compared to the uCMS-vehicle however the difference did not reach significance ($p=0.145$). Corticosterone levels post uCMS were not different between any groups. There was no difference in gene expression between groups. However, there was a non-significant trend for increased expression of *Il1*βin the uCMS-A-804598 group compared with the non-uCMS-vehicle group ($p=0.131$). **Conclusion:** The A-804598 was shown to decrease anxiety-like behavior post uCMS but had no effect on depressive-like behaviour or corticosterone levels. It appears that A-804598 increases *Il1*βexpression in combination with stress as the presence or absence of uCMS alone did not alter expression of *Il1*β

PANACEA: the post Anaesthesia N-Acetyl-Cysteine evaluation trial

David Skvarc [1], Olivia Dean [2], Linda Byrne [1], Matthew Lewis [1], Stephen Lane [3], Laura Gray [2], Cameron Osborne [3], Michael Berk [2], Andrew Marriott [4]

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Background: Post-operative cognitive deficits are often reported following surgery, particularly in the elderly. Current estimates suggest 26% of non-cardiac surgery patients aged 60 or over experience decline post-operatively in their cognition. These deficits may be transient or may have lasting effects, lingering for 1 to 2 years post-operatively. Oxidative stress and inflammation are implicated in the processes of cognitive decline following surgery and links between dementia and inflammation and oxidative stress are also reported. Given this, we have selected N-acetyl cysteine as a peri-operative intervention to attenuate post-operative cognitive deficiency. **Methods**: Participants will be administered oral NAC 1200mg or placebo twice daily, commencing 1-2 hours prior to surgery and continued for 3 days post-operatively (8 total doses of 1200mg). Timing, dosage, and placebo protocol is closely matched to other trials of NAC. Cognition will be assessed at discharge and 3 months post-surgery. **Results:** The study has not yet commenced and we are presenting this protocol early to gain clinical insight into study design and outcome variables. **Conclusion:** There have been no clinical trials examining NAC as a preventative agent for post-operative cognitive deficits in patients undergoing major non-cardiac surgery. Given the potential of NAC as a modulating agent for inflammatory and oxidative stress pathways, and the evident association between post-operative decline and inflammation and oxidative stress, research into NAC as a prophylactic presents an opportunity.

Alterations in kynurenine pathway metabolites in the blood of people with schizophrenia

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Background: Emerging evidence indicates that schizophrenia pathology is associated with altered peripheral (blood)[1] and central (brain)[2] inflammatory markers. Inflammation leads to activation of the kynurenine pathway (KP) of tryptophan metabolism and production of kynurenic acid and quinolinic acid, which respectively act as antagonists and agonists of the glutamatergic NMDA receptor. Increased levels of kynurenic acid have been reported in brain and CSF in schizophrenia, and have been suggested to contribute to NMDA receptor hypofunction and cognitive deficits in the disorder. The aim of this study was to compare blood KP metabolites in schizophrenia patients and controls. **Methods:** Serum levels of KP metabolites were measured in serum of 96 patients with schizophrenia and 82 controls using high performance liquid chromatography (HPLC) and gas chromatography-mass spectrometry (GCMS). **Results:** Plasma concentration levels of tryptophan were significantly lower in the serum of schizophrenia patients compared to controls ($t(175)=4.8$, $p<0.001$). Similarly the "neuroprotective" metabolite kynurenic acid and its precursor kynurenine, were significantly lower in schizophrenia compared to controls ($t(175)=2.8$, $p=0.007$ and $t(175)=4.6$, $p<0.001$, respectively). In contrast the "excitotoxic" metabolite quinolinic acid was significantly increased in the patients ($t(173)=2$, $p<0.05$). In addition, 3-hydroxykynurenine levels did not differ between patients and controls ($t(175)=1.12$, $p>0.05$). **Conclusion:** We report for first time higher levels of quinolinic acid and in agreement with previous studies[3] lower concentrations of kynurenic acid in the blood of people with schizophrenia. These data suggest that peripheral KP metabolites do not change in the same direction as central KP metabolites in the disorder. Future analysis will examine the relationship between KP metabolites and clinical parameters and demographic data and other inflammatory markers (cytokines) in our cohort. Our data have potential diagnostic and therapeutic implications for novel therapies targeting the kynurenine pathway in schizophrenia.

References:

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2. Fillman SG, et al. Markers of inflammation in the prefrontal cortex of individuals with schizophrenia. Molecular psychiatry. 2013;18:133.
3. Myint AM, et al. Reversal of imbalance between kynurenic acid and 3-hydroxykynurenine by antipsychotics in medication-naive and medication-free schizophrenic patients. Brain Behav Immunity 2011;25:1576-81.

Effects of centrally administered etanercept on behaviour, histology and *Tnfa* expression in mice following a peripheral immune challenge

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Background: Peripheral cytokines affect central nervous system (CNS) function, triggering anxiety and cognitive decline. Although peripheral blockade of tumor necrosis factor (TNF-α) by etanercept, has been effective in alleviating rheumatoid arthritis, it is yet unknown whether central blockade of TNF-α is beneficial for immune-challenged CNS function. This study investigated effects of central etanercept administration post-peripheral immune challenge, on behaviour and histology. **Methods:** 12-week-old C57BL/6 mice (n=40) were challenged with either LPS or saline, administered peripherally 24hr before being treated with etanercept or artificial CSF (aCSF), via intra-cerebroventricular injection. Mice underwent behavioural analyses for locomotion (open field test: OFT), memory (Y maze) and anxiety (elevated zero maze: EZM) 24hr post etanercept/aCSF treatment. Brain tissue was then collected to estimate number of hippocampal microglia and expression of *Tnfa*. **Results:** Acute systemic challenge with LPS decreased weight in mice at 24hr, and impaired locomotor activity. LPS significantly increased anxiety-like behaviour (2-way ANOVA: Interaction: $P=0.096$; Saline/LPS challenge: $P=0.0006$, aCSF/etanercept treatment: $P=0.0008$), which was reversed by etanercept, and significantly reduced cognition in the Y Maze (Interaction: $P=0.037$, Saline/LPS challenge: $P=0.31$, aCSF/etanercept treatment: $P=0.80$), which was not reversed by etanercept. LPS challenge also increased *Tnfa* expression in the hippocampus (Interaction: $F_{(1,13)}=28.04$, $P=0.0001$, Saline/LPS challenge: $P=0.0003$, aCSF/etanercept treatment: $P=0.021$) and etanercept treatment was effective in reducing this *Tnfa* expression ($P=0.001$). Etanercept also significantly reduced microglial numbers within the hippocampus, which were increased following LPS administration (2-way ANOVA: Interaction: $P= 0.0041$; Saline/LPS challenge: $P<0.0001$, etanercept/aCSF: $P=0.08$,). **Conclusion:** A single dose of etanercept was found to be effective in significantly decreasing anxiety, *Tnfa* expression and microglia numbers, 48hr post-peripheral immune challenge. This data supports the hypothesis that the behavioural changes observed, occurred as a consequence of TNF-α activation; and lend weight to the theory that immune activation within the CNS plays a pivotal role in the development of anxiety.

Evaluation of the effects of prescribed BD Drugs on mitochondrial function in neuron-like cells

Chiara Bortolasci[1], Edward Callaly[2], Briana Spolding[2], Michael Berk[2], Seetal Dodd[2], Ken Walder[2].

[1]*State University of Londrina, Londrina, Brazil.*
[2]*Deakin University, Geelong, Australia*

Background: Bipolar disorder (BD) is a disabling disorder with severe psychosocial impairment. There is evidence of mitochondrial dysfunction in BD which could be due to an abnormal expression of nuclear or mitochondrial genes coding for mitochondrial proteins. Our aim is to evaluate whether commonly prescribed BD drugs exhibit therapeutic effects by counteracting this mitochondrial dysfunction/balancing energy metabolism and to investigate the potential mechanism(s) of action. **Methods:** NT2 human teratocarcinoma cells were differentiated with retinoic acid (10 uM) to express a neuron-like phenotype, confirmed by PCR using primers for neuronal markers. The cells were replated in 24-well microplate and treated with 2.5mM lithium, 0.5mM valproate, 0.05mM quetiapine or 0.05mM lamotrigine (alone or in combination) for 24 hours at 37°C in 5% CO_2 in triplicate. We analyzed basal respiration, ATP production, maximal respiration and spare respiratory capacity by fluctuations in oxygen consumption rate measured using a flux bioanalyser (Seahorse). The data were normalised by cell number and were compared against their respective controls (H_2O and DMSO), using independent samples t-tests in SPSS to determine whether the differences in oxygen consumption rate between the treatment and control groups were significant ($P<0.05$). **Results:** In preliminary data, we observed trends for lithium, valproate and quetiapine to reduce basal and maximal respiratory capacity, while lamotrigine tended to increase these parameters. We also observed that SDHB (subunit of mitochondrial complex II) gene expression was reduced by lithium ($p=0.010$) and valproate ($p=0.018$), and that PGC1α (mitochondrial biogenesis) gene expression was increased by the drug combination ($p=0.010$). **Conclusion:** Commonly prescribed BD drugs have variable effects on mitochondria. Further experiments are required to delineate those effects.

Friday, Premiership Suite, 1030-1200

Clozapine monitoring: bridging the gaps

Shuichi Suetani[1,2], Lisa Wilton[3], Grace Macdonald [4], Jayashri Kulkarni [5], Scott Clark[1,2]

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Clozapine is a unique antipsychotic medication that is effective in 30-60% of cases of treatment resistant schizophrenia (TRS). It's use is known to reduce suicide, overall mortality, and hospitalization rates and over time improve cost effectiveness of treatment and quality of life. Unfortunately it is associated with the highest rate of metabolic side effects and with significant rates of life threatening complications such as agranulocytosis, myocarditis, seizures, sedation and severe constipation. Clozapine is strictly licensed in Australia under the S100 drug scheme. The risks of treatment and complexity of monitoring contribute significantly to the average delay of 5 years to clozapine initiation, early drop out (30% in 6 months) and under use ranging from 21-54% of TRS. The current TGA protocol considers metabolic and other parameters, but only white cell count monitoring is enforced via prescribing and dispensing rules. This potentially moves clinical focus from other life threatening side effects such as diabetic ketoacidosis and gastrointestinal hypomotility. There is an urgent need to discuss alternative models of shared care with the private sector due to the growing burden of monitoring on public health services and the poor health outcomes for chronic schizophrenia in general.

PRESENTER 1

Clozapine and constipation

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[1]*The Queen Elizabeth Hospital, Adelaide, Australia*
[2]*The University of Adelaide, Adelaide, Australia*

Background: Constipation is a significant complication of clozapine treatment. We provide a systematic review of this problem, including screening and interventional strategies. **Methods:**

Pubmed and PsychINFO were searched for publications relevant to clozapine and constipation. Inclusion criteria: (a) Publications in peer-reviewed journal, (b) Articles written in English, (c) explores relationship between clozapine and constipation. References for each article were reviewed for further articles. **Results:** 14-65% of patients treated with clozapine experience constipation. Constipation occurred in the first three months of therapy and during the maintenance phase. Mechanisms identified included the anticholinergic and antiserotonergic properties of clozapine and concomitant anticholinergic medications. While taking regular bowel history and physical examination are the mainstay of screening, use of other tools such as Bristol Stool form scale, abdominal X-ray, measurement of BMI, abdominal girth and serum anticholinergic activity can be utilized. Non-pharmacological interventions such as patient education, high-fibre diet, adequate hydration and physical exercise are effective. Laxatives were the first choice of medications, preferring the use of bulk-forming laxatives in patients with mild constipation only. Less traditional agents such as bethanechol and lubiprostone can be utilized, as well as dose reduction or slow titration of clozapine. Constipation, if untreated, can progress to significant conditions such as bowel obstruction, paralytic ileus, bowel ischaemia/infarction, perforation, necrotizing colitis and even death. **Conclusion:** Constipation is a common side effect of clozapine with significant consequences. Further studies that explore a more effective way of monitoring and managing constipation to prevent complications would benefit patients who are on long-term clozapine.

PRESENTER 2

Nurse–led clinics for clozapine monitoring, a South Australian perspective

Lisa Wilton[2] ,Scott Clark[1]

[1]*University of Adelaide, Discipline of Psychiatry, Adelaide, Australia*
[2]*Metro Local Health Networks, Mental Health Directorate, Adelaide, Australia*

Background: This paper describes the evolution of South Australian public mental health clozapine clinics from Medical-led clinics to Nurse-led clinics and the development of statewide management systems to improve the quality of clozapine care including standardised forms, computer-based monitoring and alerting systems for stable consumers. **Methods:** Methods used during the nurse-led clinic model development included: review of clozapine clinic service models, consensus review of available evidence, qualitative review of existing forms, systems and stakeholder opinion, care pathway algorithm development and training workshops. **Results:** South Australia has 1007 consumers treated with clozapine, 739 managed in public outpatient clozapine clinics within the Adelaide metropolitan area. Development of nurse-led monitoring safely reduced medical outpatient appointments by 119 per week in metropolitan public clinics. Following the rollout of computer based monitoring, electronic alerting and standardised documentation there was improvement in on time review from 75% in August 2011 to 85% in June 2012, improved metabolic monitoring and in-reach to bedded services for consumers prescribed clozapine. An annual training program has improved knowledge of clozapine requirements and processes across the SA Mental Health Services, increasing the critical mass of clozapine aware clinicians. **Conclusions:** Incomplete local interpretations of clozapine guidelines contributed to monitoring confusion. Standardised documentation promoted understanding of care processes, while facilitating audit and research. A regular training program increased basic knowledge of risks and protocols. Computer-based alerting systems improved communication between hospital and community-based teams, prompted early intervention and reduced the risk of adverse events, contributing to improved outcomes in clozapine management.

PRESENTER 3

Joining the clozapine dots across a million square kilometers in country South Australia

Grace Macdonald[1]

[1]*Country Health South Australia Local Health Network, Mental Health Directorate, Adelaide, Australia*

Background: Clozapine coordination in country South Australia has undergone a centralisation process to improve quality and safety with a supported, integrated and "keep it local" focus. More than 200 General Practitioners supported by 12 Community Mental Health Teams and local Clozapine Coordinators manage 187 mental health consumers prescribed clozapine in shared care arrangements. **Methods:** A mapping process of country clozapine services was led by an experienced nurse within a project management framework. Stakeholder consultation with careful attention to local needs and the scarcity of resource in rural areas has been critical to promote simple local solutions for consumers. A good working relationship with partners in the SA Health and private systems remains at the heart of this successful program. **Results:** Improved communication between stakeholders and a system supported by shared IT solutions to work alongside broader SA Mental Health Services has promoted consistency, alert flagging and follow up. Local coordinators have access to standardised resources, training, procedures and support. As general practitioners and health professionals become more aware of protocol requirements with specialist support, confidence in the use of clozapine is increasing. In two years there has been a 52% increase from 123 to 187. In many cases care is being kept local where in the past consumers were transported to city inpatient units for commencement or specialist acute services. **Conclusion:** Clear and consistent processes underpinned by good care planning and review processes are emerging as the system transforms from idiosyncratic and isolated operation to a dynamic and integrated service.

PRESENTER 4

Clozapine patients can successfully be transitioned into GP Shared-Care or private psychiatrist care

Sacha Filia[1] Stuart Lee[1] Kelly Sinclair[1] Alyson Wheelhouse[2] Sally Wilkins[2] Anthony De Castella[1] Jayashri Kulkarni[1]

[1]*Monash Alfred Psychiatry Research Centre, The Alfred and Monash University Central Clinical School, Melbourne, Australia.*
[2]*Department of Psychiatry, The Alfred Hospital, Melbourne, Australia.*

Background: Clozapine is the most effective treatment for persistent schizophrenia, however, its need for extensive safety monitoring often means consumers remain in case management with a public mental health service. New and less intensive care pathways are available to give greater consumer choice over how they receive care. The current study was conducted to compare outcomes for consumers treated with clozapine via one of three care pathways: 1) remaining in public mental health service case management; 2) transitioning to General Practitioner shared-care; or 3) transitioning to Private Psychiatry care. **Methods:** Files for thirty randomly selected consumers managed under the three clozapine care pathways were audited (total $N = 90$). Demographic, illness, medication compliance, service utilisation and performance on clinical outcome measures was collected. **Results:** Before transitioning, consumers transitioned to Private Psychiatry care displayed less functional impairments or substance use, greater medication compliance and fewer clinician contacts. Consumers transitioned to Shared Care had been treated with clozapine for longer, had less illicit substance use and less clinician contacts. Consumers remaining in case management displayed greater disability, more current illicit substance use and less compliance. Only one Private Psychiatry or Shared Care consumer required psychiatric hospitalization in the 12 months following transitioning. **Conclusion:** Findings from this study demonstrated that for suitable consumers treated with clozapine, provision of care can be successfully transitioned from public mental health service case management to GP-shared care or private psychiatrist care.

PRESENTER 5

General practice based public-private clozapine monitoring

Scott Clark[1], Lisa Wilton[2], Peter Donohoe[3], Oliver Schubert[1], Bernhard T Baune[1]

[1]*University of Adelaide Discipline of Psychiatry, Adelaide, Australia*
[2]*Metro Local Health Networks, Mental Health Directorate, Adelaide, Australia*
[3]*Midwest Health, Beverley, Australia*

Background: Clozapine is an effective antipsychotic with significant side effects. Current protocols mandate only regular white cell monitoring for neutropenia/agranulocytosis. There are high rates of other complications such as metabolic syndrome and constipation that require regular general medical management. Public clozapine outpatient services manage over 700 patients across metropolitan Adelaide. This number is growing by 70/year with low transfer into the private sector. Alternative models that improve public-private linkage to reduce numbers in public clinics and improve management of general physical health are urgently needed. **Methods:** We completed an audit of general practitioner shared care services for all patients managed in clozapine clinics by the Western Community Mental Health Service. Based on our findings we developed and implemented a model for a shared GP-public psychiatry clozapine clinic based in a local GP clinic. **Results:** 220 patients attended over 70 GP clinics. 5 clinics managed >10 patients (38% of the sample). We implemented a shared clinic with a visiting public psychiatrist at one of these sites. Fourteen patients were managed, over a 6-year period with a total of only 5 hospital admissions for 4 patients (1 with 2 admissions). Only 2 of these admissions were for relapse of schizophrenia and 1 for complications of clozapine treatment (late onset myocarditis). **Conclusions:** A GP-public psychiatrist shared clinic based in a private setting is one option to safely reduce workload on busy public clozapine clinics. This model is best targeted to GP clinics already servicing significant numbers of clozapine treated patients.

Friday, One, 1030-1200

Neuroprotection and neuroregeneration mechanisms in mental health disorders

Catherine Toben[1], Felice Jacka[2], Rothanthi Daglas[3], Maarten Immink[4], Rebekah Anton[5]

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Few clinical therapies offer neuroprotection and neurorepair for mental health disorders. This may be a result of little knowledge of how endogenous mechanisms act to confer neuroprotection. What is clear is that these mechanisms are essential in mitigating neurodegeneration. Neurodegenerative disorders of the central nervous system are a part of the pathophysiological processes involved in psychiatric disorders such as depression, schizophrenia, bipolar disorder and psychosis. Common mechanisms of neurodegeneration include neuroimmune changes, increased levels of oxidative stress, mitochondrial dysfunction, and excitotoxicity. By investigating these areas of dysregulation it will be possible to further understand the endogenous mechanisms of neuroprotection and neurorepair. The following symposium will highlight a range of potential neuroprotective and neurorepair interventions from studies in animal models to human randomised controlled trials. The behavioural effects of an inflammasome anatagonist administered during long term unpredictable chronic mild stress (uCMS) will be presented (CT). The second presentation will focus on associating diet as conferring neuroprotection in mental health disorders (FJ).The final three speakers will present on separate randomized control trials comparing the neuroprotective effects of quetiapine and lithium (RD) yoga (MI) or mindfulness based cognitive therapy. While neuroprotection and neurorepair mechanisms can be associated with a number of different therapies further investigations remain to be made into elucidating the exact cellular and molecular mechanisms that occur within the brain during neurodegenerative processes such as those found during mental health disorders.

PRESENTER 1

What are the biological pathways linking diet and mental health?

Felice N Jacka [1,2,3,4]

[1]*IMPACT Strategic Research Centre, Deakin University, Geelong, Australia*
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[3]*Centre for Adolescent Health, Murdoch Children's Research Centre, Melbourne, Australia*
[4]*Black Dog Institute, Sydney, Australia*

Background: In the last five years, highly consistent data has confirmed an association between diet quality and common mental disorders. These relationships are observed across countries as diverse as China, Norway, Spain, Australia, the UK and US, and Japan. They are observed in early childhood and adolescence, through to old age. **Methods:** Now that this association is confirmed, there is a need to elucidate the biological pathways that mediate these relationships in order to develop targeted strategies for prevention and treatment. **Results:** Early studies examining diet and the brain identified a key role for brain derived neurotrophic factor (BDNF) in this relationship. BDNF is a critical factor in psychiatric illness and profoundly modulated by dietary intakes. Similarly, diet has a marked impact on immune functioning, and inflammation and oxidative stress are also key factors that appear to link diet and mental health. However, it is the gut microbiome that is the likely key pathway here, being the major determinant of immune function and particularly influenced by dietary composition. The role of diet in influencing epigenetic processes is another focus of the new research, while the role of lipids in shaping the stress response is also of relevance. **Conclusion:** There are many highly plausible biological pathways that likely explain the observed relationships between diet and mental health; however, the majority of investigations have been undertaken in animal models and there remains a dearth of data in humans to date. Intervention studies currently underway may shed further light on this important question.

PRESENTER 2

Neuroimmune effects of short term administration of an inflammasome antagonist in a mouse model of long term unpredictable chronic mild stress

Catherine Toben[1], Franky So[1], Magdalene C Jawahar[1], Bernhard T Baune[1]

[1]*University of Adelaide, Adelaide, Australia*

Background: The innate immune system is considered as the bridge between neuroprotection and neurodegeneration[1]. Innate immune cells can regulate neuroimmune responses through inflammasomes which act as intracellular sensors for danger signals including those derived from stress. Unpredictable chronic mild stress (uCMS) can be a precursor to mental health disorders such as depression and anxiety. **Methods:** C57BL/6NHsd mice were assigned to 8 weeks of uCMS or controls with no uCMS. During the last 2 weeks of uCMS we administered the NLRP3 inflammasome specific P2X7 receptor antagonist, A-804598 or vehicle daily. Following uCMS mice were tested in a behavioural battery consisting of Elevated Zero Maze (EZM) and forced swim test (FST). Basal serum corticosterone levels were measured. **Results:** FST showed no difference in depressive–like behaviour between any groups. Although open arm time in EZM showed no significant difference between any groups ($p=0.27$) the uCMS- A-804598 group showed a significant high number of head dips when compared with the uCMS-vehicle group ($p=0.022$). There was no difference in corticosterone levels in pre versus post uCMS for any groups ($p=0.77$). **Conclusion:** These results show that antagonist decreased anxiety in uCMS mice suggesting that the P2X7 pathway may be involved in anxiety–like behaviour. However, neither uCMS nor antagonist had any effect on depressive-like behaviour or corticosterone levels. Further analyses of apoptotic and anti-apoptotic gene expression will delineate immunmodulation mechanisms occurring in response to NLRP3 inflammasome inhibition during long term uCMS.

References: 1. Nat Rev Neurosci Mar;3(3):216-27

PRESENTER 3

The effects of lithium and quetiapine on neuropsychological functioning in the early stages of mania

Rothanthi Daglas[1], Sue Cotton[1], Murat Yucel[2], Kelly Allott[1], Craig Macneil[3], Melissa Hasty[3], Michael Berk[1,4,5]

[1]*Orygen Youth Health Research Centre, Centre for Youth Mental Health, University of Melbourne, Melbourne, Australia*
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[5]*Barwon Health and the Geelong Clinic, Swanston Centre, Geelong, Australia*

Background: Despite cognition being normal or even superior to controls prior to a first episode of mania, there is a decline in cognitive capacity that is arguably steepest in the interval after a first episode of mania. What is unclear is the extent to which this can be prevented and which agents might be most useful for doing so. **Methods:** This study reports the outcomes of a single-blind, randomised control trial of maintenance therapy with lithium compared to quetiapine after a first episode of mania. Cognition was the primary endpoint. **Results:** This study examined a number of paper and pencil tests of neurocognition as well as a computerised battery including Cogstate and Presentation. Tests used include the Wechsler Test of Adult Reading, the Wechsler Abbreviated Scale of Intelligence, Digit Span and Digit Symbol sub-tests of the Wechsler Adult Intelligence Scale – III, Trail Making Test, Rey Auditory Verbal Learning Test, Controlled Oral Word Association Task, Attention Network Test, Go-Nogo and Stroop Tasks. Results of this study will be presented. **Conclusion:** Given that cognition is a major symptomatic domain of bipolar disorder and has substantive effects on quality of life, functioning and symptomatic outcomes, the ability to influence the trajectory of cognitive change is of considerable clinical importance.

PRESENTER 4

Yoga for emotional wellbeing following brain insult: preliminary research in a stroke population

Maarten A. Immink[1]

[1]*School of Health Sciences, University of South Australia, Adelaide, Australia*

Background: Yoga is gaining acceptance as an ancillary treatment for a wide range of conditions including psychiatric disorders. Three primary components of yoga - asana (postures), pranayama (breathing techniques) and dhyana (meditation) - are thought to promote neurobiological mechanisms that reduce symptoms of chronic stress, depression and anxiety. Benefits might be based on modifications in affective and cognitive control systems as part of developing mindfulness, or sustained, purposeful and present moment oriented attention in an accepting, non-judgmental manner. All of this is particularly relevant to long-term management of neurological disorders and stroke where neuropsychiatric conditions are prevalent. Two small randomised controlled trial (RCT) designed studies have tested the efficacy of yoga for post-stroke emotional wellbeing.[1-3] **Methods:** One RCT (N = 22) randomised participants to either a 10-week yoga intervention or wait-list control.[1, 2] Outcomes included anxiety, depression and post-intervention interviews. A second RCT (N = 14) compared a six-week yoga and exercise intervention to an exercise only intervention for anxiety and depression outcomes.[3] **Results:** Clinically relevant decreases in trait and state anxiety were associated with 10 weeks of yoga.[1] Participants reported feeling calmer, less stressed and more emotionally connected following the yoga intervention.[2] More cases with clinically relevant decreases in depression and anxiety were observed when yoga supplemented exercise.[3] **Conclusion:** Findings from preliminary studies support the notion that yoga participation can promote emotional wellbeing in stroke survivors however, further research is needed.

References:

1. Top Stroke Rehabil. 2014 May-Jun;21(3):256-71
2. Disabil Rehabil. 2011;33(25-26):2404-15
3. Altern Ther Health Med. 2012 May-Jun;18(3):34-43.

PRESENTER 5

The effects of Mindfulness-Based Cognitive Therapy on self-compassion, shame and psychological distress in a clinical sample of anxious and depressed patients: a pilot study

Rebekah Anton[1], Michael Proeve[1]

[1]*University of Adelaide, Adelaide, Australia*

Background: The tendency to experience shame or guilt is associated differentially with anxiety and depression, with shame being associated with greater psychopathology. Recent interventions designed to decrease shame in order to address mental disorders emphasise mindfulness or self-compassion. In addition, there is evidence that the therapeutic effects of Mindfulness-Based Cognitive Therapy (MBCT) are mediated by self-compassion. Relationships between shame, self-compassion and psychological distress were explored in an intervention study with participants who experienced depression or anxiety. **Methods:** The study investigated self-compassion, shame-proneness, guilt-proneness, rumination and psychological distress in 39 participants who attended an 8-week Mindfulness-Based Cognitive Therapy group. **Results:** Pearson's correlations found that shame-proneness, rumination and depression were negatively correlated with self-compassion. A series of matched paired *t*-tests showed significant increases in self-compassion from pre-to-post treatment. Additionally, results indicated significant decreases in shame-proneness, anxiety, stress and rumination but not depression, guilt-proneness or external shame. Self-compassion and rumination as mediators of the beneficial effects of MBCT will be discussed. **Conclusion:** Mindfulness meditation approaches increase self-compassion and may be helpful in reducing shame, which is linked to anxiety and depression. Further studies investigating the effects of mindfulness interventions on shame and self-compassion in clinical and non-clinical populations are warranted.

Friday, Leigh Whicker Room, 1030-1200

Epigenetic changes and psychiatric illnesses: role of epigenome in shaping adult brain and behaviour

Chaired by Magdalene C. Jawahar[1]

Joanne Ryan[2], Danay Baker-Andresen[3], Sarah Cohen-Woods[1], Bernhard T. Baune[1]

[1]*Discipline of Psychiatry, University of Adelaide, Adelaide, SA 5005*
[2]*Cancer & Disease Epigenetics, Murdoch Children's Research Institute, Parkville, Victoria, Australia*
[3]*Queensland Brain Institute, University of Queensland, Brisbane, Australia*

Gene-environment interactions contribute to a majority of biological variations underlying behaviour and health. In the last two decades research has been attributed in finding genetic variations that underlie individual variations in risk to develop psychiatric illnesses or in treatment responses.

However the effect of environment on the susceptibility genes was not elucidated until the discovery of epigenetic phenomena. The aim of this symposium to understand comprehensively the various epigenetic changes that underlie susceptibility of the genome to psychiatric illnesses and how it can be potentially used for diagnoses and treatment of mental disorders. In the first presentation a review on the current status and progress on epigenetics and depression in humans is introduced which would provide us with an overview of this rapidly growing area of research (JR). The second presentation concentrates on neuron specific DNA methylation effects in cocaine-associated memories and its significance in addiction using a mouse model (DBA). The third presentation is the first and largest study to date looking at childhood maltreatment and serotonin transporter methylation in depression (SCW). The final presentation is on the use of methylation in serotonin transporter and Monoamine oxidase A genes as an epigenetic biomarker of antidepressant treatment response in major depressive disorder (BTB). It is clearly evident from current literature and the above presentations that epigenetic changes are important biomarkers of mental illnesses. Understanding the role of these changes in mediating the different psychopathology will help improve current treatments and find new pathways to target.

PRESENTER 1

Epigenetics and depressive disorders: current progress and future directions

Joanne Ryan[1,2,3], Vania Januar[1,2], Richard Saffery[1,2]

[1]*Cancer & Disease Epigenetics, Murdoch Childrens Research Institute, Royal Children's Hospital, Parkville, Victoria, Australia*
[2]*Department of Paediatrics, University of Melbourne, Parkville, Victoria, Australia*
[3]*Inserm U1061, Hopital La Colombiere & Universite Montpellier 1, Montpellier, France.*

Background: Several broad lines of evidence support the involvement of epigenetic processes in psychiatric diseases, including the critical role of epigenetics in neurogenesis and its implication in behavioural abnormalities. Epigenetic disruption also provides a potential mechanism to account for the numerous gene-environment interactions that have been reported in association with neuropsychiatric phenotypes. **Methods:** A systematic review of the literature was performed with keywords 'depression', 'depressive disorder' or 'antidepressants' and 'DNA methylation', or 'epigenetics' in humans. Citations were limited to those written in English and published up until July 2014. **Results:** We present a summary of results to date. Most studies have focused on DNA methylation, with DNA derived from various tissues, but sample sizes have been almost universally small. Six epigenome-wide association studies have been reported, but the majority of studies used a candidate-gene approach. Replication is however lacking; only three genes (*SLC6A4, BDNF, NR3C1*) have been investigated in more than one study, and results are inconsistent. **Conclusions:** Recent evidence provides insights to epigenetic processes in psychiatry; however, replication is lacking and care must be taken in the interpretation of current findings. Studies in epigenetic epidemiology have various limitations, which no single approach can adequately address. Due to limited focus of most studies, placing the findings within the broader context of mood disorder pathophysiology may prove challenging. However, identifying biomarkers for depressive disorder remains a tantalising possibility, especially given the potential for carefully-designed longitudinal studies with multiple biospecimens collected over time, as well as the continued advances in epigenetic technology.

PRESENTER 2

DNA methylation: an epigenetic watermark of former cocaine exposure

Danay Baker-Andresen[1], Qiongyi Zhao[1], Xiang Li[1], Rose Chesworth[2], Bianca Jupp[2], Andrew Lawrence[2], Timothy Bredy[1]

[1]*Queensland Brain Institute, University of Queensland, Brisbane, Australia*
[2]*Florey Institute of Neuroscience & Mental Health, Melbourne Brain Centre, University of Melbourne, Melbourne, Australia*

Background: The molecular and cellular adaptations that underlie the maintenance of cocaine-associated memories (which encode the association between cues in the cocaine-use environment and the rewarding effects of the drug) remain equivocal. Epigenetic modifications, in particular DNA methylation, may support the maintenance of cocaine-associated memories in the face of rapid transcriptional and proteomic turnover. We examined genome-wide changes in DNA methylation in response to cocaine self-administration and passive cocaine exposure after 1 or 21 days of forced abstinence to identify persistent and/or abstinence-associated changes in DNA methylation that are unique to voluntary cocaine exposure. **Methods:** Neuronal DNA was isolated from the ventromedial prefrontal cortices of self-administering mice and yoked cocaine controls, sacrificed after either 1 or 21 days of forced abstinence. MBD ultra-sequencing was used to generate genome-wide profiles of methylation in individual animals. Genomic regions that were exclusively differentially methylated in self-administering animals were validated by MBD qPCR, and the expression of overlapped genes was quantified by real-time quantitative PCR. **Results:** 130 genomic regions were differentially methylated (relative to naïve) in response to cocaine self-administration but not passive cocaine exposure and a further 95 regions became differentially methylated during abstinence. Persistent changes in DNA methylation did not necessarily produce enduring changes in gene expression; in some cases a corresponding change in gene expression was only evident upon the reactivation of the cocaine-associated memories by a brief context re-exposure session. **Conclusion:** Cocaine self-administration produces unique changes in DNA methylation that are not observed following passive cocaine exposure.

PRESENTER 3

The impact of childhood maltreatment on methylation in the serotonin transporter gene in a clinical case-control depression sample

Sarah Cohen-Woods[1], Diana Ahmetspahic[1], Anne Macpherson[2], Julie A. Owens[2], David Stacey[1], Catherine Toben[1], Arolt Volker[3], Udo Dannlowski[4], Bernhard T. Baune[1]

[1]*Discipline of Psychiatry, School of Medicine, University of Adelaide, Adelaide, SA, Australia*
[2]*Robinson Institute, School of Paediatrics and Reproductive Health, The University of Adelaide, SA*
[3]*Department of Psychiatry and Psychotherapy, University of Münster, Münster, Germany*
[4]*Department of Psychiatry and Psychotherapy, University of Marburg, Marburg, Germany*

Background: Heritability estimates range from 48-75% in major depressive disorder (MDD). Genetic studies have struggled to identify consistent risk loci potentially due to the impact of environmental and epigenetic factors. Childhood maltreatment is associated with persistent/recurrent depression, with evidence that the serotonin transporter gene (5HTT) interacts to predict depression. Stress has also been associated with alterations in DNA methylation. **Methods:** Our sample includes 312 recurrent MDD (ICD10/DSM-IV) cases and 372 controls; the Child Trauma Questionnaire was completed to assess exposure to maltreatment. The 5HTTLPR was genotyped in the whole sample using PCR and RFLP, and methylation of 5HTT was assessed at one specific locus (cg22584138) and a second CpG-rich region of the promoter between -479 and -350 relative to the transcriptional start site, using pyrosequencing. **Results:** Methylation at cg22584138 was significantly associated with moderate to severe abuse in childhood ($p = 0.0008$), specifically with physical abuse ($p = 0.0002$). No differences in methylation were observed between affected and unaffected groups, and 5HTT genotype. We found some evidence for interaction between over-all maltreatment and genotype ($b=2.24, t(576)=1.99, p=0.047$), and physical abuse and genotype ($b=2.54, t(592)=1.97, p=0.050$). Evidence for a three-way interaction between genotype, over-all childhood maltreatment, and depression status was also observed ($b = 2.41$, $t(576) = 2.20$, $p = 0.028$). **Conclusion:** Our results suggest childhood maltreatment increases methylation of loci in the serotonin transporter, independent of depression status. This is the largest study to date investigating childhood maltreatment and 5HTTLPR methylation, and the first to investigate this in conjunction with depression status.

PRESENTER 4

Pharmacoepigenetics: prediction of treatment response to antidepressants through DNA methylation analyses in the 5HTT and MAO genes

Bernhard T Baune[1], N Tidow[2], K Schwarte[2], C Ziegler[2], KP Lesch[3], J Deckert[3], V Arolt[2], P Zwanzger[2], K Domschke[3]

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[3]*Department of Psychiatry, University of Wuerzburg, Wurzburg, Germany*

Background: The serotonin transporter gene (5-HTT; SERT; SLC6A4) and the monoamine oxidase A (MAO-A) gene have been suggested to be involved in the pathogenesis as well as the pharmacological treatment of major depressive disorder. The effects of DNA methylation of these genes on pharmacoresponse are investigated. **Methods:** The influence of DNA methylation patterns in the 5-HTT transcriptional control region (nine CpG sites) and the MAO-A regulatory and exon1/intron1 region (43 CpG sites) on antidepressant treatment response in 94 patients of Caucasian descent with MDD (f = 61; DSM-IV) was analused. Clinical response to treatment with escitalopram was assessed by intra-individual changes of HAM-D-21 scores after 6 wk of treatment. **Results:** Lower average 5-HTT methylation across all nine CpGs was found to be associated with impaired antidepressant treatment response after 6 wk ($p = 0.005$) particularly conferred by one individual 5-HTT CpG site (CpG2 (GRCh37 build, NC_000017.10 28.563.102; $p = 0.002$). In the MAO gene, female patients showed an association between lower methylation at two individual CpG sites in the MAO-A promoter region and impaired response to antidepressant treatment after 6 weeks (GRCh37/hg19: CpG 43.514.063, $p = 0.04$; CpG 43.514.684, $p = 0.009$), not, however, withstanding correction for multiple testing. **Conclusion:** This analysis suggests that DNA hypomethylation of the 5-HTT transcriptional control region – as opposed to methylation of the MAO gene - might impair antidepressant treatment response in MDD. This pharmaco-epigenetic approach could eventually aid in establishing epigenetic biomarkers of treatment response and thereby a more personalized treatment of MDD.

Friday, SACA Boardroom, 1030-1200

What do we know about comorbidity between substance use and mental health disorders? Implications for prevention and future directions

Discussant: Frances Kay-Lambkin[1]

Tim Slade[1], Natacha Carragher[1], Lexine A. Stapinski[1,2], Louise Birrell[1] & Zoe Tonks[1]

[1] *NHMRC Centre for Research Excellence in Mental Health and Substance Use, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia*
[2] *School of Social and Community Medicine*, *University of Bristol, Bristol, United Kingdom*

Anxiety, depressive and substance use disorders account for three quarters of the disability attributed to mental disorders. The peak of this disability occurs in those 15-24 years old and corresponds with the typical period of onset of these problems. The current symposium will present findings from large cross-sectional and longitudinal studies to provide insight into the prevalence and nature of these disorders, which is vital for informing preventative efforts. The underlying mechanisms of the comorbidity between substance use and mental health will also be discussed in the context of current preventive interventions and directions for future research.

PRESENTER 1

Temporal relationships between internalising (mood and anxiety) disorders and the initiation of alcohol use: findings from the 2007 National Survey of Mental Health and Wellbeing

Louise, Birrell[1] , Tim Slade[1], Nicola Newton[1], Maree Teesson[1], Cath Chapman[1] and Zoe Tonks[1]

[1] *NHMRC Centre for Research Excellence in Mental Health and Substance Use, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia*

Background: Anxiety, and mood (internalising) disorders commonly begin in adolescence. Adolescence is also the time when most people begin experimenting with alcohol. An early age of first drinking has been linked to the development of later substance use disorders and many health risk behaviours. Of particular interest is the relationship between internalising disorders and alcohol use, as these problems frequently co-occur have similar risk factors and interact. To date, little research has focused at a population level on how anxiety and mood disorders relate to drinking initiation and, in particular, whether the prior onset of internalising disorders speeds up the initiation of alcohol use. **Methods:** Data came from the 2007 National Survey of Mental Health and Wellbeing, a nationally representative household survey of 8841 Australians aged 16-85 years old. This survey assessed participants for the most common DSM-IV mental disorders as well as alcohol and drug use. Critical information on the timing of disorder onset as well as alcohol use initiation was also collected. **Results:** Discrete-time survival analysis were used to explore the temporal relationships, model age of first alcohol use and to determine the odds of initiating alcohol use given the prior onset of an internalising disorder. Preliminary results indicate that individuals with a lifetime internalising disorder have significantly increased odds of initiating drinking (compared to those with no disorder). **Conclusion:** A clear understanding of the relationship between anxiety disorders, mood disorders and drinking initiation will help to inform prevention and early intervention efforts for these common problems in the general population. This knowledge will also aid in understand the origins of the comorbidity between internalizing disorders and alcohol use.

PRESENTER 2

Drinking to cope: a latent class analysis of alcohol use motives in a large cohort of adolescents

Lexine A. Stapinski[1,2], Maree Teesson[1], Alexis Edwards[2], Ricardo Araya[2], Matthew Hickman[2], & Jon Heron[2]

[1]*NHMRC Centre for Research Excellence in Mental Health and Substance Use, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia*
[2]*School of Social and Community Medicine*, *University of Bristol*
[3]*Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University, Richmond, VA, USA*

Background: Alcohol consumption during adolescence is common, although there is considerable heterogeneity in patterns of use. Drinking to cope with negative emotions is associated with greater risk of harmful consumption and alcohol use disorders. The self-medication model suggests anxious and depressed adolescents are especially susceptible to these risky motives for drinking. **Methods:** Patterns of drinking motives were explored in a UK birth cohort. At age 17, participants (n= 3,957) reported on their alcohol and other drug use, mental health, and use of alcohol to cope with a range of emotions. Socio-demographic data was collected via maternal report. Latent class analysis was used to identify subtypes of drinkers based on the drinking motives reported. Individual and family characteristics associated with these subtypes were examined. **Results:** The vast majority (92%) of adolescents reported alcohol consumption in the past year, and 26% of those drank weekly or more often. Latent class analysis revealed 4 distinct drinking motive profiles. These profiles were associated with divergent socio-demographic characteristics, and differing patterns of association with mental health risk factors. Adolescents with an anxiety or depressive disorder were six times more likely to fall within the high-risk drinker subtype. **Conclusions:** This study suggests coping motives for drinking are common but vary according to individual and family factors. Adolescents from low versus high socio-economic backgrounds were characterized by distinct drinking profiles; thus intervention approaches may need to be tailored accordingly. Targeted early intervention for high-risk adolescents may help to prevent the development of problematic drinking patterns.

PRESENTER 3

An integrated approach to preventing substance use in adolescents: 12-month outcomes of the CAP (Climate and Preventure) intervention

N.C. Newton[1*], M. Teesson[1], P. Conrod[2], Tim Slade[1], K. Champion[1], N. Nair[1], E. Kelly[1], N. Carragher & E.L. Barrett[1]

[1]*NHMRC Centre for Research Excellence in Mental Health and Substance Use, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia*
[2]*Department of Psychiatry, Université* de Montréal, Montreal, Canada

Background: Early initiation of substance use is associated with a range of negative consequences. Although school-based prevention programs exist, their efficacy is contentious and no programs prevent substance use in both high- and low-risk adolescents. Our proposed model addresses this gap by developing an integrated approach to prevention which combines the effective 'universal' *Climate Schools* and 'selective' personality-targeted *Preventure* programs. The program is known as the *CAP (Climate and Preventure*) intervention. **Methods:** To examine the efficacy of the CAP intervention, a cluster RCT is currently being conducted in 27 Australian schools. 2608 students aged 13-14 years were invited to participate in the trial and schools were randomised to one of four conditions; the '*Control'* condition, the '*Climate*' condition, the '*Preventure*' condition, or the '*CAP'* condition. Students were assessed at baseline, post intervention (79% follow-up rate), and 12 months post baseline (86% follow-up rate) on the uptake and harmful use of alcohol and other drugs, substance use related harms, and mental health symptomatology. **Results:** At baseline assessment 10.3% have had at least one standard drink of alcohol with 5.0% having consumed five or more standard drinks on at least one occasion. Preliminary findings demonstrate that the *Climate* and *CAP* interventions both result in increased knowledge about alcohol, when compared to the Control intervention. Analyses are currently being carried out to unpack these findings and determine whether there are differential intervention effects for high- and low-risk adolescents. **Conclusion:** If the CAP intervention can reduce alcohol and drug use by levels equal or greater than that of the stand-alone programs, it will be a significant contribution to health promotion and to reducing the burden of disease, social costs, and disability associated with substance abuse in Australia.

PRESENTER 4

Modelling psychopathology structure: a developmental perspective

Natacha Carragher[1], Maree Teesson[1], Nicola Newton[1], Katrina Champion[1], Erin Kelly[1], Natasha Nair[1], Emma Barrett[1], Patricia Conrod[2], Matthew Sunderland[1], Tim Slade[1]

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[2] *Department of Psychiatry, Université de Montréal, Montreal, Quebec, Canada*

Background: A wealth of empirical studies has demonstrated that comorbidity among common mental disorders can be understood in terms of broad dimensions of psychopathology. However, much of this work has been confined to adults, with relatively few empirical studies investigating the structure of adolescent psychopathology. This is despite copious findings that the majority of high-prevalence mental disorders have first onset in adolescence, and the expression of mental disorders differs for adolescents and adults. **Methods:** Data were derived from a cluster randomised controlled trial ('The CAP Project') which assessed the efficacy of an integrated approach to alcohol misuse prevention compared to universal prevention, personality-targeted prevention, and treatment as usual. A total of 2,190 students from 26 Australian secondary schools participated in this longitudinal study. Schools were randomised to one of four intervention conditions and students were assessed at baseline, immediately-post intervention, and 12, 24, and 36 months post baseline. **Results:** Symptom-level exploratory and confirmatory analyses were used to explore the organisation of internalising, externalising, and psychotic symptomology among adolescents. Further, we examined invariance of a symptom-based model of psychopathology structure across girls and boys, and sensitivity to change following alcohol misuse interventions. **Conclusion:** This study represents the first structural investigation of its kind among adolescents in Australia. Our findings underscore the importance of accounting for symptoms in the hierarchy in psychopathology structure, replicate features of psychopathology structure observed in adults, and have important implications for understanding the nature and organization of mental disorders in young people.

PRESENTER 5

How can parents help curb alcohol use in adolescents?: the role of alcohol-specific rules on adolescent drinking trajectories in an Australian sample

Zoe Tonks[1], Tim Slade[1], Nicola Newton[1], Maree Teesson[1], Cath Chapman[1], Louise, Birrell[1], Richard Mattick[2], Kypros Kypri[3], Raimondo Bruno[4], Jake Najman[5], Nyanda McBride[6], Delyse Hutchinson[2], Monika Wadolowski[2] & Alex Aiken[2]

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[3]*School of Medicine and Public Health, The University of New Castle, Newcastle, Australia*
[4]*School of Psychology, University of New South Wales, Tasmania, Australia*
[5]*School of Social Science, The University of Queensland, Brisbane, Australia*
[6]*National Drug Research Institute, Curtin University, Perth, Australia*

Background: Recent evidence suggests that parents can play a key role in curbing adolescent alcohol use, particularly through setting alcohol-specific rules. However, little is known about the specific nature of this parenting practice such as which rules are most effective in delaying alcohol use and whether the effectiveness of these rules are moderated by other factors (eg. individual characteristics of the adolescent). It is therefore essential to further examine the nature of this parenting practice and its effects on trajectories of alcohol use. **Methods:** Longitudinal data were derived from the Drinking and Teens Project, which includes a total of 1,928 students aged 12-years-old at baseline from 49 schools across Australia. Self-report measures include demographics, the 'Rules about Alcohol' scale to measure perceived rules about alcohol, the 'Achenbach's Youth Self Report instrument (YSR)' to measure externalising problems in adolescents, and the 'Alcohol Use- frequency, quantity' questionnaire to measure adolescent alcohol use. **Results:** Descriptive statistics were used to determine the prevalence of perceived rule-setting in adolescents and cross-sectional and longitudinal regression techniques, were used to estimate the direct effect of alcohol-specific rules on alcohol use and determine whether this relationship is mediated by individual characteristics. **Conclusion:** This study is the first of its kind to demonstrate the effectiveness of alcohol-specific rules on adolescent alcohol use in Australia, as well as factors that may potentially moderate this association. Implications for future preventative interventions for implementation in Australia will be discussed.

Friday, William Magarey East, 1245-1405

Genetics of depression

Ma-Li Wong[1], Julio Licinio[1]

[1]*South Australian Health and Medical Research Institute and Flinders University, South Australia, Australia.*

Background: We know little about the underlying fundamental biology of major depressive disorder (MDD), the leading cause of disability and the largest single cause of nonfatal disease burden in Australia. Despite estimates of heritability at 37%, decades of molecular genetic investigation have revealed little of the genetic basis of MDD. By 2020 MDD will become the second leading contributor to global burden of disease. A recent GWAS meta-analysis study including more than 18,000 individuals failed to show any single nucleotide polymorphisms (SNPs) with genome-wide significance in MDD. **Methods:** A sample of case-control Mexican-Americans was used. MDD was defined using the DSM-IV and a HAM-D21 score of $\geq$18 was needed to enter the study. We used genome-wide association study genotype information from the MDD dbGaP for replication purposes; dbGaP provides open access to large samples of genetic and phenotypic datasets. **Results:** We used a set of 15 nonsynonymous SNPs (nsSNPs),that were nominally associated with MDD to perform ARPA (Advance recursive partition, tree-based, approach) analysis. Genetic interactions among these functional variants accounted for a significant part of the phenotypic variance in MDD. We replicated those discovery findings using NCBI's dbGaP (National Center for Biotechnology Information's database of Genotype and Phenotypes) for MDD. We found that associated nsSNP variants in six genes, *PSMD9*, *HSD3B1*, *BDNF*, *GHRHR*, *PDE6C,* and *PDLIM5*, over represented positive regulation of processes relevant to growth and development. A statistical tree analysis using these variants provided 40% sensitivity for MDD diagnosis, 83% specificity for prediction of controls, and 63% accuracy for the prediction of MDD or control subjects. **Conclusion:** We showed that genetic analyses as well as classificatory multidimensional tree techniques applied to nsSNPs associated to MDD diagnosis provided a reliable branching-tree framework that predicted, with reasonable sensibility and specificity, the clustering of MDD patients.

Innovations in brief interventions for youth alcohol misuse

Leanne Hides[1, 2]

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[2]*QUT Project Leader, Etools for Wellbeing Project, Young and Well Cooperative Research Centre, QUT, Brisbane, Australia.*

Background: Alcohol use is endemic in young Australians, and is a major preventable cause of injury, disability and death in young people. While, brief interventions have a well-established evidence base for reducing alcohol use and related harm in young people, there is significant scope to increase their impact. This presentation reviews the evidence base for brief alcohol interventions for young people, and reports the results of two recent clinical trials aimed at enhancing their effects. **Methods:** Study 1 compared the efficacy of 2 sessions of MI enhanced with coping skills training versus a 1 session assessment feedback control among 61 young people accessing a youth primary care service. Study 2 compared the efficacy of 2 sessions of telephone delivered MI enhanced with standard and personality focused coping skills training compared to an assessment feedback control among 55 young people with alcohol related injuries and illnesses accessing an emergency department. **Results:** In the first study, enhanced MI resulted in significantly greater reductions in alcohol use than assessment feedback alone at 1 and 3 months but not 6 months follow up. Study 2 found all three brief mobile-based brief interventions were associated with significant reductions in alcohol-use and related harms over time. However, the personality focused MI had significantly greater effects. **Conclusions:** The addition of coping skills training to MI enhances its effects in young alcohol users. Further research is currently being conducted to determine if personality focused MI is more effective than standard MI and an assessment feedback control. The clinical and research implications of these findings will be discussed.

Harnessing cognitive lifestyle to better prevent dementia & cognitive impairment in late life

Michael Valenzuela[1]

[1]*Regenerative Neuroscience Group, Brain and Mind Research Institute, University of Sydney*

Cognitive lifestyle refers to lifelong patterns of complex mental activity and is emerging as a key factor in the maintenance of brain health and protection from dementia. By bringing together several population-based cohorts, we are beginning to build a picture what is a 'normal' cognitive lifestyle for older Australian, British and French individuals. Furthermore, data from the UK's large Cognitive Function and Ageing Study suggests an active cognitive lifestyle leads to a compression of cognitive morbidity – more life years spent cognitively able and fewer years impaired – with important socioeconomic and health implications. What could be the biological basis for these effects? Our neuroimaging research points to an important link between managerial experience in our working lives and structural hippocampal integrity in late life. Post mortem analyses further suggest a role for microvascular disease-modifying and neurotrophic mechanisms. From a health prevention perspective, our group has now carried out two major randomized clinical trials that attempt to translate these insights into effective lifestyle interventions. New data from the Timecourse Trial and SMART Trial will be presented, for the first time identifying unique structural and functional mechanisms related to distinct cognitive outcomes, along with exciting new evidence for the stimulation of *in vivo* neurogenesis based on proton spectroscopy. Our work and that of many others suggest that it is indeed possible to protect and enhance cognitive function in older at-risk individuals whilst also revealing the potential and limits of brain plasticity. Implications for social policy, particularly with respect to retirement age and retirement planning, will be canvassed.

Distinguishing self from world in schizophrenia and schizotypy

Thomas Whitford[1], Lena Oestreich[1], Nathan Mifsud[1], Brian Roach[2], Daniel Mathalon[2], Judith Ford[2]

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[2] *Department of Psychiatry, University of California - San Francisco, San Francisco, CA, USA*

Background: Self-generated sensations typically feel less salient than externally-generated sensations; the fact that it is difficult to tickle oneself is a well-known example. Consistent with this phenomenon, it is well-established that self-produced sensations such as the sound of one's own voice normatively evoke less activity in the electroencephalogram (EEG) than physically identical, externally-produced sensations. However, there is growing evidence to suggest that schizophrenia patients do not exhibit this 'electrophysiological self-suppression' (ESS). These ESS abnormalities have been argued to underlie some of the most bizarre yet characteristic symptoms of schizophrenia, in which patients misattribute self-generated actions to external agents. The aim of the present study was to explore whether non-clinical individuals who scored highly on the personality dimension of schizotypy also experienced subnormal levels of ESS self-generated speech, and thus whether ESS abnormalities could potentially represent a biomarker for proneness-to-psychosis. **Methods:** Thirty-seven non-clinical participants scoring high on the Schizotypal Personality Questionnaire (High Schizotypy) and 37 individuals scoring low on the SPQ (Low Schizotypy) underwent EEG recording. The amplitude of the N1-component of the auditory-evoked potential was calculated while participants (a) vocalized simple syllables (Talk condition), (b) passively listened to a recording of these vocalizations (Listen condition) and (c) listened to a recording of these vocalizations, with each vocalization being preceded by a visual cue (Cued condition). **Results:** The Low Schizotypy group exhibited N1-suppression during the Talk condition relative to both the Listen and Cued conditions. In contrast, the High Schizotypy group failed to exhibit N1-suppression in the Talk condition, relative to either the Listen or Cued conditions. **Conclusion:** These findings suggest that non-clinical, highly schizotypal individuals exhibit subnormal levels of ESS to self-generated speech. To the extent that these results resemble the ESS abnormalities previously identified in schizophrenia patients, this study provides psychophysiological evidence in support of the concept of a 'continuum of psychosis'.

Friday, William Magarey East, 1430-1545

Untangling paths to illness and health: trajectories in psychosis

Chris Pantelis [1], Scott Clark [2], Mario Alverez [3,4], Philip Ward [5]

[1] *Melbourne Neuropsychiatry Centre, The University of Melbourne and Melbourne Health*
[2] *University of Adelaide, Discipline of Psychiatry, Adelaide, Australia*
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[5] *School of Psychiatry UNSW Sydney, Australia*

Psychosis is heterogeneous in disease course and functional outcomes. There is emerging evidence from investigations in clinical psychiatry, neuroimaging, neurocognition, and blood biomarker research suggesting that distinct bio-psycho-social patterns exist early in the course of psychosis which can describe the risk of individual illness progression and functional trajectories. Multimodal trajectory modeling may be useful to describe longitudinal outcomes. Rich longitudinal data on predictors and outcomes, and better integration of multimodal (sociodemographic, clinical, psychological, biological) data are required to operationalize this approach. These techniques may improve our understanding of course of illness and help the early identification of trajectory specific treatments to prevent or reverse progression and comorbidity.

PRESENTER 1

Trajectories of brain change in schizophrenia and other psychoses: changes during emergence and relapse of illness.

Christos Pantelis[1], Stephen Wood[1], Vanessa Cropley[1], Nitin Gogtay[2], Patrick McGorry [3,4]

[1] *Melbourne Neuropsychiatry Centre, The University of Melbourne and Melbourne Health*
[2] *Child Psychiatry Branch, National Institute of Mental Health (NIMH)/National Institutes of Health (NIH), Bethesda, Maryland, USA*
[3] *Orygen Youth Health Research Centre. Melbourne, Australia*
[4] *Centre for Youth Mental Health, The University of Melbourne. Australia*

Background: Mental disorders like schizophrenia, mood disorders and substance abuse begin in adolescence and early adulthood. This is a time of active brain changes as adolescents mature into adulthood. Such maturational changes provide the context for understanding how and why these disorders arise during this critical period of development. Further, brain changes over the initial stages of the illness suggest this is a dynamic time with evidence for continuing progressive changes. **Method & Results:** I will summarise the findings from the Melbourne early psychosis and prodromal studies examining premorbid and progressive brain changes during and following the onset of psychosis. The findings suggest that potential markers of psychosis should be examined longitudinally to assess normal and abnormal trajectories during maturation and with the emergence of mental disorders (Pantelis et al, 2005; 2009). **Conclusion:** Brain change trajectories include evidence for (a) neurodevelopmental lag, (b) neurodevelopmental arrest, and (c) neuroprogressive changes. However, the pattern of these trajectories during early psychosis is unclear, particularly during periods of acute relapse and remission (Cropley et al, 2013, 2014).

PRESENTER 2

Modeling trajectories in clinical high risk of psychosis

Scott R Clark[1], Bernhard T Baune[1], K Oliver Schubert[1] Simon Rice[2], Nandita Vijayakumar[2], Miriam R Schäfer[2], Patrick D McGorry[2], G. Paul Amminger[2]

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Background: First episode psychosis (FEP) is preceded by prodromal symptoms in perception, thinking and function, conceptualized under the term clinical high risk for psychosis (CHR). Predicting transition to FEP has proven difficult. The inclusion of markers of oxidative stress associated with transition and outcomes in schizophrenia may improve prediction accuracy. **Methods:** We analysed data from a previously published12-week trial of omega-3 fatty acid supplementation on 12-month transition to psychosis (Amminger et al. 2010, Arch Gen Psychiatry 67: 146–154). For each baseline predictor we calculated likelihood ratios (LRs) in the placebo group. Predictors included historical risks, standardised clinical assessments, and blood markers of oxidative stress including nervonic acid (N3), superoxide dismutase (SOD), niacin and glutathione (GSH)). We selected variables with the highest positive and lowest negative LRs for inclusion in an odds ratio form of Bayes rule predictive model. **Results:** Transition rate in the placebo group (n=40) was 28%. Ten cases were excluded due to missing data. We constructed a model combining baseline history (drug use, Premorbid Adjustment Scale (PAS) in childhood and early adolescence and nicotine use), clinical assessment (PANSS positive, negative and global scales, and GAF) and oxidative markers (Levels of SOD, Niacin, GSH and N3). The model was able to predict transition with a sensitivity of 70% and specificity of 85% (Area under the receiver operating curve = 0.865). **Conclusions:** This explorative analysis suggests that the accuracy of predicting transition can be improved by combining clinical data with markers of oxidative stress using a simple probabilistic model.

PRESENTER 3

Functional recovery trajectories in FEP

Mario Alvarez –Jimenez[1, 2], C. González-Blanch[3], JF. Gleeson[4] SM.Cotton[1, 2], LP. Henry[1, 2], SM. Harrigan ,PD McGorry [1,2]

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Background: There is increasing interest in functional recovery trajectories in early psychosis. The longitudinal interrelationship between full functional recovery (FFR) and symptom remission and between risk factors such as cannabis use and long-term social functioning remains to be elucidated. These studies sought to: 1) examine the relationships between FFR and symptom remission in FEP over 7.5 years, and 2) determine the impact of cannabis use on functional recovery in FEP over 30-months. **Methods:** 209 FEP patients treated at a specialized FEP service were assessed at baseline, 8-months, 14-months and 7.5 years to determine their symptom remission and functional recovery. Moreover, 81 FEP patients were assessed every 6 months for 30 months to assess their cannabis use and social functioning. Multivariate logistic regression and path analysis were employed to test the relationships between symptom remission and FFR. A linear mixed-effect model was used to compare functional recovery trajectories of cannabis users vs. nonusers. **Results:** Remission of both positive and negative symptoms at 8-months predicted functional recovery at 14-months, but not FFR at 7.5 years. Functional recovery at 14-months significantly predicted both FFR and remission of negative symptoms at 7.5 years, irrespective of whether remission criteria were simultaneously met. Cannabis misuse at baseline was associated with worse social functioning after controlling for confounders with the differences becoming apparent at 24-month follow-up. **Conclusions:** Early functional and vocational recovery plays a pivotal role in preventing the development of chronic negative symptoms and disability. Patients with cannabis use disorder at baseline have worse social outcomes.

PRESENTER 4

It's about time: changing physical health trajectories for young people with psychosis

Philip B Ward[1,2], Jackie Curtis[1,3], Katherine Samaras[4,5], Andrew Watkins[3], Scott Teasdale[1,3], Simon Rosenbaum[1,3], and Megan Kalucy[1,3]

[1]*School of Psychiatry UNSW Sydney*
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Background: People living with severe mental illness have twice the rates of overweight/obesity, and diabetes, two to three times the rate of tobacco use and five times greater risk of elevated cholesterol levels than the general population. These risk factors for cardiovascular disease are present from the onset of first episode psychosis, and lay the seeds for future morbidity and substantially reduced life expectancy. First-episode psychosis services are addressing this problem, including trials of lifestyle interventions focused on increasing physical activity and fitness and improving diet and nutritional status. **Method & Results:** The Bondi Early Psychosis Program developed a 12-week lifestyle and life-skills intervention – Keeping the Body in Mind - that attenuated the substantial weight gain usually observed in young people with first episode psychosis recently commenced on antipsychotic medication. The key elements of the intervention will be outlined, and the translational challenges of adapting the intervention methodology for different service models, and sustaining the positive health outcomes achieved, will be discussed. The importance of establishing targets for improved physical health outcomes in this vulnerable population will be highlighted, with the development and dissemination of the Healthy Active Lives (HeAL) declaration (www.iphys.org.au) driving changes in service delivery at multiple levels (local, state, national and international). **Conclusion:** Improving physical health outcomes and reducing cardiovascular risk factors for young people with first episode psychosis will play a major role ensuring that these young people have the same life expectancy and expectations of life as their peers who have not experienced psychosis.

Friday, SANFL, 1430-1545

The prism of male depression: a multi-faceted examination

Judy Proudfoot[1], Kay Wilhelm[2,3], Dusan Hadzi-Pavlovic[3], Helen Christensen[1], Simon Rice[4,5,6], Erin Whittle[1,3], Kylie King[7], Michael Player[1], Aram Hosie[8], Gillian Vogl[8]

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[8]*ReachOut.com by Inspire Foundation*

One in eight men will experience depression in their lifetime and 5.3% in any one year[1], but major depression can be masked in men, producing an underestimation of prevalence. Emotional distress is often expressed as risk-taking, antisocial and externalising behaviours, such as anger, aggression, violence, risky sexual encounters, gambling, drink-driving, road rage, deliberate self harm, or as somatic complaints. Sickness absences, excessive drug and alcohol use to numb emotional distress, and overwork to distract from problems are also common. Many men find it difficult to recognize depressed mood. Furthermore, admitting a need for help and relying on others may be seen by men to conflict with gender-based behavioural norms. Of the men who reported a 12-month mental disorder in 2007, only 28% accessed services for mental health problems (cf 41% of women)[1]. As a result, many men are not receiving help and for those who do access services, health professionals often have to work from other presentations to diagnose a mental health problem. This symposium presents a multi-faceted examination of depression in men. Five papers will be presented on topics ranging from a new approach to assessment, to positive self-help strategies that men use naturally, the role of the media in encouraging help-seeking and ways to interrupt suicide. The final paper profiles the economic costs associated with poor mental health amongst young men.

[1]Australian Bureau of Statistics (2008). National Survey of Mental Health and Wellbeing of Australians: Summary of Results. Canberra

PRESENTER 1

Assessing depression in men: the role of sex differences in longitudinal externalising and internalising depression symptom trajectories

Simon Rice[1,2,3], Helen Aucote[4], Anne Maria Möller-Leimkühler[5], Matt Treeby[6], G Paul Amminger[1,7]

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[7]*Department of Child and Adolescent Psychiatry, Medical University of Vienna, Vienna, Austria*

Background: Clinical reports indicate that men tend to engage in a range of externalising behaviours in response to negative emotional states. Such externalising behaviours have been theorised to reflect a male sub-type of depression that is inconsistent with current diagnostic criteria, resulting in impeded detection and treatment rates of depressed men. **Methods:** This study presents self-report longitudinal data for the multidimensional Male Depression Risk Scale (MDRS-22) against ratings of diagnostic criteria for major depressive disorder as assessed by the Patient Health Questionnaire–Depression Module (PHQ-9). A sample of 233 adults (males = 125; 54%) completed measures of externalising and prototypic depression symptoms at Time 1, and again at Time 2 (15 weeks later). Psychometric properties were examined and within-subjects analyses undertaken. **Results:** The MDRS-22 demonstrated stable internal consistency and test–retest correlations equivalent to those observed for the PHQ-9. Both prototypic and externalising depression symptoms increased with experiences of recent negative life events. Marked gender differences were observed. Males experiencing ≥ 2 stressful negative life events reported significantly higher MDRS-22 scores at both Time 1 and Time 2 relative to comparable females. **Conclusion:** Findings contribute to the validity of the MDRS-22 as a measure of externalising depression symptoms. Findings suggest that externalising symptoms may be a special feature of depression for men, especially for men following experiences of negative life events. Given the problematic nature of such externalising symptoms (e.g. excessive substance use, aggression, risk-taking), their clinical assessment appears warranted.

PRESENTER 2

Doing what comes naturally: positive strategies used by men to prevent depression and suicide

Erin Whittle[1,3], Judy Proudfoot[1], Andrea Fogarty[1], Michael Player[1], Kay Wilhelm[2,3], Dusan Hadzi-Pavlovic[1,2] & Helen Christensen[1]

[1]*Black Dog Institute, Sydney, Australia*
[2]*School of Psychiatry, UNSW, Sydney, Australia*
[3]*Faces in the Street, St Vincent's Hospital, Sydney, Australia*

Background: Previous research on men's depression has focused primarily on their use of negative coping strategies, externalising behaviours, and lack of help-seeking. Less attention has been paid to the positive coping strategies that men use naturally and in the absence of clinical intervention. Knowledge of these strategies is invaluable in developing targeted public health interventions that can be widely used and endorsed by men. **Method:** The study utilised a mixed method design. Men recruited in NSW and Victoria (both rural and urban) participated in focus groups and semi-structured interviews. Qualitative data were subjected to thematic analysis, and the results were used to develop a national online survey. The survey focused on the positive coping strategies recommended by men and collected data about other strategies that had not previously been identified. Respondents were also asked about their current and previous depression, personality, psychological resilience and 'externalising' symptoms of depression. **Results:** A total of 201 men participated in the interviews and focus groups, and 465 men across Australia completed the survey. Men reported using a wide variety of strategies to both prevent and manage depression according to self-monitored warning signs of distress. Common prevention strategies included exercise, social connections, and keeping busy. Common management strategies emphasized achievement, problem solving, and cognitive reframing. Data analyses are ongoing. **Conclusion:** The findings demonstrated that men use a range of positive coping strategies that have been underreported in previous research. This knowledge is highly useful in the context of developing wider public health interventions.

PRESENTER 3

The role of the media in encouraging men to seek help for depression or anxiety

Anna Machlin[1], Kylie King[1], Matthew Spittal[1], Jane Pirkis[1]

[1]*The Centre for Mental Health in the School of Population and Global Health, University of Melbourne, Melbourne, Australia*

Background: The media is the public's primary source of information on mental illness and plays an important role in shaping people's perceptions and stigma about mental illness, and potentially influencing help-seeking. Whilst men report lower rates of mental disorders than women, they have significantly reduced help-seeking for mental health problems compared with women. This study was interested in the potential for the media to promote help-seeking in men. The study aimed to determine whether there is a relationship between constructive and affirming (positive) media stories in Australian newsprint about depression and/or anxiety in men and the use of helpline services by men. **Methods:** Ten stories were selected for analysis with the help of a Consumer Reference Group, these were compared with contact volume to four Australian helplines. We conducted a qualitative examination of these stories, also with the assistance of the Consumer Reference Group, in order to determine whether there were characteristics that distinguished the stories. **Results:** The research found that of the ten stories analysed, four were associated with increased contact with helplines by men in the two weeks following the story. The four stories were differentiated from the other stories by being stories about hope and recovery that featured men who were either revered or could be easily identified with. **Conclusion:** This study demonstrates the significant positive impact that newsprint media can have on the help-seeking behaviours of men with depression and/or anxiety. The use of publicly revered role models appears to be particularly useful in promoting help-seeking.

PRESENTER 4

"I'll deal with it, it's my problem, I'm a man": lessons from men's experiences of depression and suicide

Michael J. Player[1], Judy Proudfoot[1], Andrea Fogarty[1], Erin Whittle[1], Kay Wilhelm[2,3], Dusan Hadzi-Pavlovic[3], Fiona Shand[1], and Helen Christensen[1]

[1]*Black Dog Institute, Sydney, Australia*
[2]*Faces in the Street, St Vincent's Hospital, Sydney, Australia*
[3]*School of Psychiatry, UNSW, Sydney, Australia*

Background: While women report greater rates of depression and higher numbers of suicide attempts, men account for four in five deaths by suicide and access mental health services at low rates. It is essential to understand and respond effectively to the reluctance of men to seek help in times of suicidal crisis. **Methods**: Men who survived a suicide attempt between six and 18 months ago participated in in-depth interviews, and friends and family members participated in focus group discussions in all eight Australian states and territories. Data analyses used thematic analysis to identify the core features of male suicidality and explore opportunities to interrupt suicidal behaviour. **Results**: 35 men and 47 family and friends reported that core features of male suicidality often included: unhelpful ideas about masculinity, social isolation, use of ineffective coping strategies, depressed mood and experiencing stressors. They reported these factors tended to interact and grow worse over time, resulting in heightened risk and creating barriers to treatment. Men and family and friends agreed the warning signs represented an opportunity to intervene. They were not always confident about how to proceed, but made a range of suggestions. **Conclusion**: While men do not seek help easily, recognisable warning signs may indicate they will accept help from others during a suicidal crisis. It is crucial that strategies identified as acceptable to men and their family and friends are understood and more widely disseminated.

PRESENTER 5

Too costly to ignore: responding to the economic costs of young men's poor mental health

Aram Hosie[1], Gillian Vogl[1], Jo Degney[2], Blair Hopkins[3], Simon Linns[3] and Asmita Verma Rajendrenam[3]

[1]*ReachOut.com by Inspire Foundation, Sydney, Australia*
[2]*The George Institute, Sydney, Australia*
[3]*Ersnt &Young, Sydney, Australia*

Background: Engaging young men has been a significant focus for ReachOut.com by Inspire Foundation due to the high proportion of young men who have mental health problems but don't seek help. ReachOut.com has been working with its partners to understand young men's mental health and help- seeking and to raise awareness of the negative individual, economic and social impacts of young men's poor mental health. This presentation will focus on research undertaken in partnership with Ernst and Young to explore the productivity costs associated with poor mental health amongst young men. The impact of the research and proposed solutions to the findings will also be canvassed. **Methods:** An economic model was developed measuring three sets of costs: mortality costs due to premature death; morbidity costs due to work absence (including sick days and unemployment benefits to government if the person is unemployed), and, morbidity costs due to presenteeism (being present at work but not performing tasks at a maximum capacity). **Results:** The results of the modelling and analysis estimated the cost of young men's mental illness in Australia to be $3.27 billion per year, with over nine million working days lost per annum. **Conclusion:** Failure to act presents a threat to Australia's future productivity and individual prosperity. Australia urgently needs a 21st century mental health with a focus on mental health promotion and prevention to keep people mentally healthy in the first place.

Friday, Premiership Suite, 1430-1545

Expert review of the DSM-5 criteria for diagnosing major depression in older Australian adults

Heather Buchan[1], Matthew Sunderland[1], Natacha Carragher[1], Eva Louie[1], Philip Batterham[2], Tim Slade[1]

[1]*NHMRC Centre of Research Excellence in Mental Health and Substance Use, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia*
[2]*Centre for Mental Health Research, the Australian National University, Canberra, Australia*

Background: Epidemiological studies typically find that prevalence estimates of major depression are significantly lower in older adults compared to middle-aged and younger adults. These differences may be due to age-related biases in the diagnostic criteria and instruments that are commonly used to assess major depression. The present expert review is an in-depth qualitative examination of potential sources of age-related bias in the DSM-5 diagnostic criteria for major depression. **Methods:** Experts were nine Australian and international clinicians and researchers in the field of old age psychiatry. The experts completed a questionnaire based on the Questionnaire Appraisal System (QAS-99), which comprised a systematic evaluation of the DSM-5 diagnostic criteria for major depression. Experts provided detailed comments on potential problems relating to the wording and content of each criterion that may lead to inaccurate or biased responses from older adults. Experts were also asked to suggest strategies for minimising problems and improving accuracy of responses. **Results:** A wide range of potential age-related biases in the criteria were identified that address different aspects of comprehension and understanding. Common themes across criteria included problems with missing information, terminology (e.g., vague or technical terms), recall and computation problems, sensitive content, and misattribution of symptoms to other medical conditions. **Conclusion:** The identified age-related biases in the diagnostic criteria should be taken into account when interpreting epidemiological studies of depression among older adults. These may affect how older adults endorse symptoms of depression in diagnostic instruments, which in turn may influence the outcomes of community surveys that utilise these instruments. The results from this expert review formed the basis of a cognitive interviewing study to investigate how older adults interpret and respond to questions that operationalise the DSM-5 diagnostic criteria for major depression.

Randomised controlled trial of group cognitive behavioural therapy compared to a discussion group for the treatment of comorbid anxiety and depression in older adults

Viviana M. Wuthrich[1], Ronald M. Rapee[1], Maria Kangas[1] and Sarah Perini[1]

[1]*Centre for Emotional Health, Department of Psychology, Macquarie University, Sydney, Australia*

Background: Anxiety and depression are commonly comorbid. Little research has examined the effectiveness of psychological treatment for comorbid anxiety and depression in older adults. In a previous trial (Wuthrich & Rapee, 2013), group cognitive behavioural therapy (CBT) was demonstrated to be efficacious compared to waitlist; however, more research was needed to determine whether CBT was more efficacious than an active control. **Methods:** 135 older adults aged over 60 years with both a DSM-IV anxiety disorder and a unipolar mood disorder were randomly allocated to a group CBT or a discussion group program. Pre-treatment, post-treatment and 6 month follow up assessments were conducted and changes in diagnostic status and severity on the Anxiety Disorders Interview Schedule, anxiety and mood symptoms on self-report questionnaires, and quality of life were examined. **Results:** Analysis demonstrated that both groups resulted in symptom improvements over time. However, there was a significant group by time interaction with the CBT group being superior to the discussion group over time on diagnostic measures, and some self-report questionnaires. **Conclusion:** These results demonstrate the superiority of group CBT over an active control for the treatment of comorbid anxiety and depression in older adults.

References:

Wuthrich, V.M., & Rapee, R.M. (2013). Randomized Controlled Trial of Group Cognitive Behavioral Therapy for Comorbid Anxiety and Depression in Older Adults. Behaviour Research and Therapy, 51 (12), 779-786.

Financial strain and depressive symptoms in older men and women: buffering effects of social resources

Tim Windsor[1], Rachel Curtis[1], Mary Luszcz[1]

[1]*Flinders University, Adelaide, Australia*

Background: There is now substantial research evidence indicating that socio-economic disadvantage is associated with poorer physical and mental health outcomes over the life span. Recently scholars have aimed to move the field forward by focusing on specific resources available to individuals that could protect against the negative effects of social disadvantage. In the present study we examined associations of financial strain with depressive symptoms in a large sample of adults aged 70 and older. Our focus was on whether the availability of social resources played a role in moderating the association between financial strain and depressive symptoms in older men and women. **Methods:** Participants consisted of 1393 older adults (mean age = 79.44, SD = 6.41; 883 men, 510 women) from the Australian Longitudinal Study of Aging who provided data on up to 6 occasions over an 18 year measurement interval. Growth models were used to assess associations of financial strain and social resources (supportive network size; confidant availability and network satisfaction) with levels and rates of change in depressive symptoms (CES-D). **Results:** Financial strain was associated with higher levels of depressive symptoms, and social network satisfaction was associated with lower depressive symptoms. Tests of moderation revealed different patterns of protective effects for men and women. For men, larger supportive networks and satisfaction with networks were associated with fewer depressive symptoms among those reporting financial hardship. For women experiencing financial strain, initial advantages (i.e., lower depressive symptom scores) among those with high network satisfaction diminished over time. **Conclusion:** Socio-economic differentials in mental health remain evident into late life. Social resources may help to protect against higher levels of depression arising from financial hardship, however these effects may be more evident among older men than older women. Implications for gender differences in the experience of social relationships will be discussed.

Friday, One, 1430-1545

Post-mortem brain tissue in psychiatric research: a focus on gene expression, functional genomics, and clinical biomarkers

David Stacey[1], Tertia Purves-Tyson[2,3,4], Irina Voineagu[5], Brian Dean[6]

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[2]*Schizophrenia Research Institute, Sydney, Australia*
[3]*Schizophrenia Research Laboratory, Neuroscience Research Australia, Sydney, Australia*
[4]*School of Medical Sciences, University of New South Wales, Sydney, Australia*
[5]*School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, 2052*
[6]*The Florey Institute for Neuroscience and Mental Health, Parkville, Victoria 3052, Australia*

Post-mortem brain tissue is of paramount importance in the continued elucidation of the molecular mechanisms underlying psychiatric disease. The first talk aims to justify this statement whilst also discussing some of the advantages and challenges associated with this tissue. We will then follow this up with talks from two research groups within Australia performing cutting-edge research using post-mortem brain tissue to identify the mechanisms underlying schizophrenia and autism with a primary focus on gene expression and gene regulation. We will then finish up with a talk highlighting the critical role the Australian Brain Bank Network (ABBN) plays in post-mortem brain research both within Australia and beyond, before adopting a more translational stance discussing the progression from brain banking to clinical biomarkers and to what extent early evidence suggests these markers might be useful in schizophrenia.

PRESENTER 1

The Australian Brain Bank Network (ABBN): a national collaborative approach for the collection, handling, and distribution of post-mortem human brain tissue for neuroscience research

David Stacey[1]

[1]*Discipline of Psychiatry, University of Adelaide, Adelaide, Australia*

Despite the ever-evolving technologies and research tools available to researchers in the field of biological psychiatry today (i.e., neuroimaging techniques, induced pluripotent stem cells, artificial neural networks, and various animal models), post-mortem human brain tissue from psychiatric disease cases represents an irreplaceable source of information. Nevertheless, when working with post-mortem brain tissue, researchers are presented with several challenges both technical and conceptual in nature. The primary aim of this introductory talk is to highlight the necessity of post-mortem brain research within the context of psychiatric research, whilst also outlining some of the major advantages of utilizing this tissue relative to other more "accessible" tissues and models. The myriad ways in which human post-mortem brain tissue can be applied to elucidate the pathophysiological mechanisms underlying psychiatric disease will briefly be discussed. Finally, some of the challenges associated with post-mortem brain research will be discussed along with various approaches that researchers within the field of biological psychiatry are currently using to address them.

PRESENTER 2

Changes in dopamine pathway molecules and sex steroid receptors in the substantia nigra in schizophrenia

Tertia Purves-Tyson[1,2,4], Debora Rothmond[1,2], Nicole Hofstein[1,2,4], Cyndi Shannon Weickert[1,2,3]

[1]*Schizophrenia Research Institute, Sydney, Australia*
[2]*Schizophrenia Research Laboratory, Neuroscience Research Australia, Sydney, Australia*
[3]*School of Psychiatry, University of New South Wales, Sydney, Australia*
[4]*School of Medical Sciences, University of New South Wales, Sydney, Australia*

Background: Evidence from schizophrenia patients suggests presynaptic dopamine dysfunction in the associative striatum, implicating abnormalities in dopamine neurons of the substantia nigra (SN). Epidemiological evidence suggests that testosterone is detrimental in schizophrenia pathophysiology, while estrogen is protective against psychosis. It is unknown how gene expression of dopamine-pathway related molecules or sex-steroid receptors are changed in the SN in schizophrenia. Our rodent studies indicate that androgen receptor (AR) activation can increase dopamine receptor D2 (DRD2) and dopamine transporter (DAT) mRNA expression in the SN(1). We investigated how gene expression levels of sex-steroid receptors and dopamine-related molecules are changed in the human SN in schizophrenia. **Methods:** We examined mRNA expression by quantitativePCR of AR, ERα, DAT, DRD2 and TH in the postmortem SN from control (n=29) and schizophrenia subjects (n=29). **Results:** In the SN we found a 30% (p=0.036), a 37% (p=0.018) and a 43% (p=0.0002) decrease in DRD2pan, DRD2short and DAT mRNA, respectively, but no change in TH mRNA (p=0.67) in schizophrenia. We found a trend for decreased AR (p=0.09) but no change in ERα mRNA (p=0.34) in schizophrenia. **Conclusion:** This provides evidence of gene expression changes in dopamine-related pathways in dopamine cell bodies without large changes in sex-steroid receptor mRNAs in the SN in schizophrenia. Less DRD2s, which inhibits dopamine release, may indicate more dopamine release and less DAT may result in longer dopamine action on postsynaptic receptors, both contributing to increased dopamine neurotransmission in schizophrenia. We conclude that there are proximal changes in the regulation of dopamine neurotransmission in dopamine neuron cell bodies and potentially the presynapse in schizophrenia.

PRESENTER 3

Brain expressed enhancers are sites of copy number variation in ASD

Pu Yao[1], Akira Gokoolparsh[1], Amelia Assareh[1], Irina Voineagu[1]

[1]*School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, 2052*

Autism spectrum disorders (ASD), as neurodevelopmental disorders in general, are highly heritable yet genetically heterogeneous conditions. Based on current genetic data, each ASD case likely carries a combination of common and rare variants that cumulatively account for disease risk, with the number of independent risk loci being estimated in the hundreds. Since individual common genetic variants have low effect sizes for ASD risk, a major focus of current ASD genetics research has been on targeted sequencing of coding regions aiming to identify rare *de novo* variants. In addition, network-based approaches have been developed in order to identify groups of functionally-related genes, that cumulatively contribute to disease risk. However, a major limitation of ongoing targeted sequencing approaches is the lack of interrogation of non-coding regulatory regions. We thus set out to identify brain-expressed enhancer (BEE) regions and to investigate whether previously identified rare sequence variants associated with ASD overlap BEE loci. We identified over 400 enhancer regions that are consistently expressed in the human brain, and found that several of them overlap copy number variants previously detected in ASD patients.

PRESENTER 4

From brain banking to clinical biomarkers: fact or fantasy?

Brian Dean[1]

[1]*The Florey Institute for Neuroscience and Mental Health, Parkville, Victoria 3052, Australia*

Background: Many areas of medicine now rely on validated tests to aid in diagnoses and the development of treatment regimes In psychiatric disorders, the development of neuroimaging and other tools to measure CNS function and the notion that the biology of psychiatric disorders affects whole of body has fuelled efforts to discover biomarkers that would have diagnostic utility or aid in treatment decision making. Focusing on molecular approaches to biomarker discovery, cost considerations strongly suggest that for any biomarker to have widespread utility it would need to use an easily accessible peripheral tissue with a low risk of collection side-effects. Following this logic, this presentation will focus on the approaches, progress and problems in identifying molecular biomarkers for psychiatric disorders. The focus will be on non-DNA sequence biomarkers because levels of such biomarkers are more likely to reflect interactions between genes and environment that are now predicted to play a pivotal role in the genesis of a psychiatric disorder. **Methods:** Combining literature review and own data to suggest gene expression profiling can be used as a useful clinical aid in clinical decision making in diagnosing and treating schizophrenia. **Results:** It has now been shown that diagnostic biomarkers are feasible and possibly commercially viable. Data from this researcher suggests specific gene expression profiles can be used, at least in human CNS tissue, to separate schizophrenia from controls and sib-sets of individuals within the syndrome of schizophrenia. **Conclusion:** There is growing evidence to support the discovery of clinically useful biomarkers for schizophrenia but it is becoming clear that such tools will likely be based on changes in panels of analytes, rather than on a single analyte. Importantly, progress needs to be made in standardising sample collection to allow the potential utility of biomarker systems as widely used clinical aids to be assessed.

Friday, Leigh Whicker Room, 1430-1545

Twenty-two shades of grey – the case for p<0.05 as an indicator of effectiveness in clinical trials

Andrew Mackinnon[1,2]

[1]*Orygen, The National Centre of Excellence in Youth Mental Health, Melbourne, Australia*
[2]*The University of Melbourne, Melbourne, Australia*

Background: The use of $p<0.05$ as an indicator of 'significance' was conceived in a potting shed on a damp island off the coast of France nearly a century ago. Application of this criterion outside its agricultural origins in randomised clinical trials of mental health interventions has proceeded enthusiastically but without reference to the its originally intended use. The implications of this are largely unevaluated. **Methods:** The historical basis for $p<0.05$ was explored and compared to contemporary research into statistical significance and outcome reproducibility. In order to evaluate the potential impact of applying criteria with higher standards of reproducibility, one hundred randomized controlled trials published in a top-tier psychiatry journal reporting a significant effect of treatment were identified. P-values of reported tests of effectiveness were extracted and subject to distributional analysis. **Results:** Under mild assumptions, the outcomes of trials significant at $p<.05$ are more likely *not* to be reproducible than they are to replicate. Analysis of the corpus of trials sampled suggests that a substantial proportion of trials purported by their authors to demonstrate a beneficial effect of a treatment or intervention would not survive application of even modest criteria aimed at identifying reproducible outcomes. **Conclusion:** Many published trial outcomes in mental health would be better translated into Sanskrit than clinical practice or policy. More constructively, researchers undertaking trials should move beyond the minimalism of power analyses to consider the likely reproducibility and precision of their studies. Consumers of trials, at all levels, should take a careful but flexible approach in evaluating claims of benefits established in trials in the published literature.

New item banks to assess mental health

Philip J Batterham[1], Matthew Sunderland[2], Natacha Carragher[2], Alison Calear[1], Jacqueline Brewer[1]

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Background: Screening for mental health problems can increase help seeking and directly link individuals with appropriate services. However, there is a need for brief, precise assessment tools that can be used to rapidly identify a broad spectrum of mental health problems in the community. The development of adaptive screeners in the US has shown promise in rapid and precise assessment of depression, anxiety and alcohol use. The present study has developed item banks to facilitate screening for social anxiety, panic, OCD, PTSD, substance use, adult ADHD, psychosis and suicidality. These measures are being calibrated and validated against existing screening measures and DSM-5 criteria. **Methods:** The item banks are being calibrated in a large population-based sample randomly selected from the Australian electoral roll. Invitations to participate in an online survey are being mailed to 105,000 adults, with an expectation that data from approximately 20,000 adults will enable calibration of the new item banks, using an item response theory approach. Identification of items that best distinguish DSM-5 criteria will be used to develop to new screeners for a range of mental disorders. **Results:** The first mail-out of survey invitations occurred in August 2014. Recruitment will be completed in October 2014 and this presentation will be the first time that calibration data are presented. From item banks of 45-79 items for each domain of mental health, it is anticipated that final item banks will consist of the 20-30 calibrated items that best distinguish each disorder, along with 5-10 item screeners of specific and global mental health. **Conclusion:** The new item banks will enable more rapid and accurate assessment of mental health in the community. The data from this project will also inform models of comorbidity, and test whether screening and feedback improves help seeking behaviours.

New item banks to assess mental health: item selection process

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Background: As the first stage of a large project to create a brief, precise adaptive screening tool for mental health problems, this research aimed to select representative items to assess Panic Disorder, Social Anxiety Disorder, Obsessive-Compulsive Disorder, Post-Traumatic Stress Disorder, adult Attention-Deficit Hyperactivity Disorder, Substance Use Disorder, suicidal thoughts and behaviours, and psychosis. This research builds on the existing Patient Reported Outcomes Measurement Information System (PROMIS) item banks for depression, anxiety, anger and alcohol use, and adopts a similar methodology. **Methods:** A four-stage process was used to select items: 1) systematic literature searches of Medline and PsycInfo, 2) item selection, refinement and standardization, 3) obtaining feedback on items from consumers and experts, and 4) reduction of item banks in preparation for calibration in a population-based sample. **Results:** Across the eight mental health conditions, 6,900 items were collected. Of these, 2,002 were standardized in format, and rated by small groups of consumers and experts. Expert ratings of item relevance correlated moderately with consumer ratings, with variation across conditions. An algorithm based on these ratings was used to generate final item banks, ranging from 45-75 items per disorder. **Conclusion:** This systematic process for item selection may be applied to additional mental and physical health conditions. The calibration of the present item banks using a random sample of Australian adults will enable the development of flexible measures to assess risk of mental health problems, while more effectively accounting for the high rates of comorbidity among mental disorders.

Ethical oversight and participant protection in psychiatric clinical trials

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Background: Researchers who conduct clinical trials, and human research ethics committees (HRECs) that approve trials, owe a duty of care to participants. This should include taking seriously and responding appropriately to concerns raised by others about the methodology and conduct of trials. In Australia, HRECs are required by the NHMRC National Statement on Ethical Conduct in Human Research to promptly and sensitively handle complaints. Our experience of submitting complaints about psychiatric trials to the HRECs that approved them revealed problems in the ethical oversight of trials in Australia. **Methods:** Narrative review of our concerns about the trials, the content of our complaints, the HRECs' responses, our requests for justification of those responses, the adequacy of the National Statement as a guide to the complaints process, and the implications for participant protection in Australian research. **Results:** We submitted detailed complaints about the trials, explaining serious ethical and methodological problems, citing peer-reviewed evidence. The HRECs responded defensively, and our subsequent attempts to gain access to important methodological details that were claimed to address our concerns and justify their responses were thwarted. The complaints process outlined in the National Statement is very unclear (even to NHMRC staff) and is biased in favour of HRECs. The National Statement is ambiguous about key issues and processes. There is no clear explanation of 'appropriate confidentiality'. There is inadequate discussion about conflict of interest. Some important issues (including freedom of information) are not mentioned at all. **Conclusion:** The National Statement is inadequate in relation to complaints about the approval of trials, jeopardising protection of research participants. The complaints process seems better suited to address researchers' complaints about rejection of their proposals (or limitations imposed). It needs to be revised to provide a clear process for the handling of complaints, including HREC obligations and arbitration by independent parties.

Friday, SACA Boardroom, 1430-1545

Recovery in schizophrenia - the role of long acting injectable in protecting patient autonomy

J R Newton, Anthony Harris, Stephen Addis

PRESENTER 1

Evidence based psycho-social and long-acting injectable treatments for Schizophrenia

Timothy Rolfe, J R Newton[1]

[1]*Austin Health, University of Melbourne*

Background: There exists a large evidence base supporting psycho-social interventions in schizophrenia as well as long acting injectables. This presentation will discuss the role of evidence based psycho-social interventions as adjunctive treatment to pharmacotherapy (and long acting injectables). It will highlight the importance of ensuring evidence based psychosocial interventions are provided to patients with schizophrenia and identify the current gaps between what we know should be provided and what services actually deliver. **Methods:** A selected review of the literature will be presented. This will include a summary of relevant Cochrane reviews as well as additional literature reviews where Cochrane reviews are not available or up to date. **Results:** Although much is known about effective psycho-social interventions in pharmacologically treated schizophrenia our current systems of service delivery nationally and internationally are not ensuring systematic provision to patients in need. **Conclusion:** Complex system re engineering may be required to move away from ineffective traditional models of community mental health care to contemporaneous models that incorporate recovery principles and evidence supported systems making use of both psycho-social interventions and modern long-term pharmacological treatments.

PRESENTER 2

Recovery in Schizophrenia - the role of long acting injectable in protecting patient autonomy

Anthony Harris[1,2], Tanya Kosic[1]

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[2]*Brain Dynamics Centre, Westmead Millennium Institute for Medical Research, Westmead, Australia*

Background: The use of Long Acting Injectable antipsychotic medication (LAIs) remains stigmatized in daily psychiatric practice in Australia. This is despite well recognized advantages in the consistency of treatment and reduction in relapse and the availability of a broader range of medications in this format. Reluctance to use LAIs is frequently related to the context of their use in compulsory care thus aspects of patient autonomy and respect are central to the proper use of these medications. This paper will explore these issues. **Methods:** Literature review. **Conclusion:** When disarticulated from issues surrounding compulsory treatment, patient preference consistently endorsed continuation of their present treatment, including LAIs. However, choice of route of administration of medication had usually been made by the treating doctor with little discussion with either the patient or their family. In an era when medication compliance or adherence has given way to medication concordance, engagement, education and respect for the wishes of the individual being treated is essential for long term treatment.

PRESENTER 3

Destigmatising long acting injectables in the eyes of the carers and families

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[2]*Northern Mental Health, Northern Adelaide Local Health Network, Salisbury, Australia*

Background: Long acting injectable antipsychotics (LAIA) are an effective treatment option for some people with schizophrenia and other severe and enduring mental illnesses, but are thought to carry a high burden of stigma in the eyes of carers and families. **Methods:** The recent literature on attitudes towards depot antipsychotics amongst caregivers of people with severe mental illness was reviewed. Additionally, clinical experience from family interactions in an Early Psychosis Intervention Service in South Australia (EPIS) was considered, where the treatment option of depot antipsychotics following a first psychotic episode is routinely discussed. **Results:** Recent surveys on family attitudes towards antipsychotic medications indicate that depot antipsychotics are viewed relatively favourably. Additionally, some studies suggest that LAIA treatment may contribute to reductions in carer burden and improved quality of life for families looking after a relative with schizophrenia. Clinical examples from EPIS indicate that LAIA are acceptable to carers of young people suffering from a first episode psychosis if they are discussed openly with all stakeholders in a non-coercive and evidence-oriented context. **Conclusion:** De-stigmatisation of LAIA treatment is possible if these medications are openly discussed with carers and families as a potential treatment option in any clinical stage of schizophrenia and other enduring psychotic disorders.

PRESENTER 4

Abilify Maintena - its place in the current treatment armamentarium

Dennis Liu[1]

[1]*Northern Adelaide Mental Health Service, Northern Adelaide Local Health Network*

Schizophrenia is a complex syndrome with a highly variable presentation and course which contributes a disproportionately large amount to the total disease burden attributable to mental illness. A patient-centred management plan, focusing on recovery, demands a careful constructed individualized treatment strategy including how choices are made about medication treatment, how this affects medication adherence. The introduction of antipsychotics offers an effective treatment option for schizophrenia. Adherence to antipsychotic treatment is widely recognised as one of the biggest challenges. Poor adherence is the largest single cause of relapse. Long acting modified release injectable formulations of antipsychotics are specifically designed to improve adherence to medication. Medication efficacy and tolerability are the major factors influencing treatment choice in psychosis. Good patients and clinicians communication around medication efficacy andsafety profiles and patient risk factors for adverse effects should guide antipsychotic choice. and joint decision making are more likely to improve adhere to the treatment plan. Aripriprazole prolonged release injection provides an alternative to the existing limited range of long acting injectable antipsychotics including zuclopenthixol, flupenthixol, risperidone, paliperidone and olanzapine, allowing clinician to increase the chance of finding an effective treatment to suit patient's individual needs. Mental health professionals require a range of competences based on sound knowledge of available medications to help patients manage their medication effectively.

Poster Abstracts

1. Paraoxonase 1 plasmatic activity and functional genotypes contribute significantly to total plasma radical trapping antioxidant potential in mood disorders

Chiara Bortolasci[1], Michael Maes[2], Heber Vargas[1], André Souza-Nogueira[1], Estefania Moreira[1], Sandra Nunes[1], Michael Berk[3], Seetal Dodd[3], Décio Barbosa[1].

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Background: The measurement of the total radical trapping antioxidant potential (TRAP) is a general marker of peripheral blood antioxidant defenses. Paraoxonase (PON)1 is a potent antioxidant, which protects against lipid peroxidation. The study aimed to investigate the relation between TRAP and PON1 activity, PON1 Q192R functional genotypes and smoking, in mood disorders. **Methods:** Blood samples from 197 controls and 136 subjects with mood disorders were collected. TRAP was measured by chemiluminescence adapted from Repetto et al, 1996 and PON1 status was determined in a microplate spectrophotometer (Richter et al, 1999). We used analyses of variance (ANOVAs) and analyses of covariance (ANCOVAs). When the overall test was significant we employed Tukey's test. Relationships between variables were checked using Pearson's correlation coefficients and stepwise GLM regression analyses. We used automatic stepwise binary logistic regression analyses to examine the associations between the group of patients with low TRAP levels versus those with higher TRAP levels as dependent variable and different explanatory variables. We set the statistical significance at $\alpha = 0.05$ (two tailed). **Results:** Higher TRAP levels were significantly associated with higher PON1 plasmatic activity; the RR functional genotype and the interaction between non-smoking and RR carriers. TRAP levels were significantly lower in patients with mood disorders than in controls. The risk in the subgroup with low TRAP levels is increased by a smoking X RR genotype interaction and decreased by the RR genotype and PON1 activity. **Conclusion:** PON1 plasmatic activity, the PON1 Q192R functional genotypes and specific interactions between this genotypes and smoking contribute significantly to TRAP levels in mood disorders patients.

References: M. Repetto, C. Reides, M. L. G. Carretero, Oxidative stress in blood of HIV infected patients. Clin. Chim. Acta. 255 (1996) 107-117. R. J. Richter, C. E. Furlong, Determination of paraoxonase (PON1) status requires more than genotyping. Pharmacogenetics. 9 (1999) 745-753.

2. BRIDGING the GAP between CONTENT and PROCESS: biomarker cross-talk between biochemistry and sensory-process in schizophrenia and schizo-affective disorder

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Background: The Mental Health Biomarker Project (2010-2014), selected commercially-available biochemistry markers related to monoamine biochemistry and measures for visual and auditory processing pathways, to investigate biomarkers for schizophrenia and schizoaffective disorder and their translational relationships. **Methods:** Within a case-control design with multiple exclusion criteria designed to exclude organic causes and confounding variables, 67 independently DSM diagnosed and 67 undiagnosed participants from a defined hospital, clinic and community catchment area were investigated for 30 biochemical and neuro--sensory putative markers. Participants underwent protocol-based diagnostic-checking, functional-rating, biological sample-collection and sensory-processing assessment. Outcome measures were analysed from blood and urine samples for monoamine neurotransmitters and vitamins, cofactors and intermediate-substances known to be related to oxidative stress and the synthesis and metabolism of monoamines. Neurocognitive assessment of visual and auditory processing was conducted at both peripheral and central levels. Data analysis by Receiver Operating Curve (ROC) and Lowess regression. **Results:** 26 putative markers, divided into several domains, demonstrated biomarker status for schizophrenia and schizoaffective disorder on ROC analysis. Informative translational relationships were found between monoamine levels, their related biochemistry, oxidative stress and sensory processing deficits, on Lowess regression analysis. **Conclusions:** There is scope for investigation of specific biological and neuro-cognitive-sensory biomarkers to be useful for identification of schizophrenia and schizoaffective disorder. Peripheral and central sensory processing deficits and oxidative stress contribute to the aetiology of psychosis in schizophrenia and schizo-affective disorder. Nutritional biochemical factors, accumulate and translationally interact in stronger, more pervasive role than historically recognised.

3. Longitudinal associations between mismatch negativity and disability in early schizophrenia- and affective-spectrum disorders

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Background: Impaired mismatch negativity (MMN) is a robust finding in schizophrenia and recently, impairments have been reported in early stage schizophrenia- (Sz) and affective-spectrum (Aff) disorders. Few longitudinal studies have explored the predictive value of MMN in relation to clinical/functional outcomes. This study assessed changes in MMN (and the concomitant P3a) amplitude over time and aimed to determine the relationship between MMN/P3a and functional outcome in Sz and Aff. **Methods:** Sixty young patients with Sz and Aff and 30 healthy controls underwent baseline clinical, neuropsychological and neurophysiological assessment. Thirty-one patients returned for clinical and neuropsychological follow-up 12-30 months later. Twenty-eight of these patients repeated neurophysiological assessment. MMN/P3a was elicited using a two-tone passive auditory paradigm with duration deviants. **Results:** Patients showed significantly impaired temporal MMN and trend-level deficits in central MMN/P3a amplitudes at baseline compared with controls. At baseline, there were no significant differences for MMN measures between diagnostic groups whilst Sz showed reduced P3a amplitudes compared to Aff. In the follow-up cohort, reduced temporal MMN amplitude at baseline was significantly associated with greater levels of occupational disability, and general and social disability at the trend-level, at follow-up. Furthermore, central MMN amplitudes were significantly reduced in patients over time. Interestingly, patients who did not return showed reduced frontal MMN and fronto-central P3a amplitudes compared to their peers who returned. **Conclusion:** This study provides evidence of the predictive utility of MMN for Sz and Aff. Specifically, we found that patients with the most impaired MMN amplitudes at baseline showed the most severe levels of disability at follow-up. Furthermore, this study demonstrated that MMN impairments in such patients may worsen over time suggestive of neurodegenerative effects. MMN may serve as a neurophysiological biomarker to more accurately predict functional outcomes and prognosis, particularly at early stages of illness.

4. Using pleiotropy to improve genetic risk prediction in psychiatric disorders

Robert Maier[1], Gerhard Moser[1], Guo-Bo Chen[1], Stephan Ripke[2], Cross disorder Working group of the Psychiatric Genomics Consortium[3], William A. Coryell[4], James B. Potash[5], William A. Scheftner[6], Jianxin Shi[7], Myrna M. Weissman[8], Christina M. Hultman[9], Mikael Landén[9], Douglas F Levinson[10], Kenneth S. Kendler[11], Jordan W. Smoller[12], Naomi R. Wray[1], S. Hong Lee[1]

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Background: Genome wide association studies are increasingly being used to predict the genetic risk for complex, polygenic disorders. However, prediction accuracy is limited by heritability and by sample size. The genetic correlation between several psychiatric disorders makes it possible to effectively increase sample size by analyzing datasets on different disorders together. **Methods:** Genomic best linear unbiased prediction (GBLUP) is a mixed linear model method, which uses all genotyped SNPs to predict genetic risk. Multi-trait GBLUP (MTGBLUP) is an extension of this method which combines datasets of genetically correlated disorders to leverage the information which hides in this correlation. We applied both these methods to large schizophrenia, bipolar disorder and major depressive disorder datasets to create predictors of genetic risk. These predictors are then evaluated in independent datasets for each disorder. **Results:** For all three disorders the multivariate MTGBLUP predictors are more accurate than the univariate predictors (STGBLUP). When comparing the 10% with the lowest predicted genetic risk to the 10% with the highest predicted genetic risk, our method increases the odds ratio between these groups from 2.8 to 4.4 in the case of bipolar disorder. The increase in prediction accuracy achieved translates into an effective increase in sample size of 30% to 60% of the original sample sizes for the three disorders. **Conclusion:** Whereas genetic risk prediction in some Mendelian disorders can reach close to 100% accuracy, most psychiatric disorders are influenced not by one, but thousands of genetic variants and thus genetic risk prediction is very inaccurate, even when heritability is high. Current sample sizes might have to increase by an order of magnitude or more before such predictors become clinically useful. We have developed software, which can exploit the genetic correlation between psychiatric disorders to derive more accurate predictors from existing datasets. It is available under https://github.com/uqrmaie1/mtgblup.

5. Ketamine as a model for schizophrenia deficits

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Background: Can specific schizophrenia deficits be mimicked in healthy participants under the influence of ketamine? We sought to replicate three significant schizophrenia findings in a ketamine affected group: (1) indirect semantic hyper-priming (2) impairment in configural face processing (3) deficient global, but intact local processing. **Methods:** The study was a placebo-controlled double-blind cross over design. Nineteen healthy individuals between 18-35 with no personal or family history of psychosis, no drug use and no neurological issues were included. Placebo condition consisted of a saline infusion while in the ketamine condition; a bolus of 0.12mg/kg was administered to rapidly raise the level of ketamine in the blood followed by a steady infusion of 0.8mg/kg/hour of ketamine over an 80-minute period. **Results:** Significant Indirect reaction time (RT) priming (unrelated RT- related RT) was exhibited after ketamine administration but not in the placebo condition supporting the schizophrenia hyper-priming literature. Face processing: There was no difference in RT to the same versus different faces under the influence of ketamine whilst in the placebo condition, there was a faster RT to different versus the same face. Further, under ketamine, there was no difference in RT to upright versus inverted faces whilst placebo was associated with a significant inversion effect: faster RT to upright versus inverted faces.Global/local results demonstrated opposing patterns of error response across the two conditions. There was no accuracy difference to globally congruent versus incongruent stimuli under ketamine. In the placebo condition, participants were more accurate to congruent than incongruent global stimuli. In terms of local processing, under ketamine, participants made significantly fewer errors to congruent than incongruent stimuli. In the placebo condition there was no difference between congruent and incongruent stimuli. **Conclusion:** The semantic results support the schizophrenia literature. The visual processing data from both the faces task and the global/local tasks supports a focus on local over global processing of stimuli, also supporting the schizophrenia findings.

6. The effect of maternal stress and depression on neonatal epigenetic profile

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Background: The Developmental Origins of Health and Disease (DOHaD) concept describes how the early life environment induces changes in development that have a long term impact on later health. Maternal stress and depression during pregnancy have been linked to negative health effects in the child, including an increased risk of birth complications and neurodevelopment delays. The exact mechanisms by which these effects are transmitted from mother to child remains unclear, but epigenetic mechanisms are likely to play a role. Very recent pilot studies in humans provide some evidence that maternal stress influences methylation of the glucocorticoid receptor (*NR3C1*) gene, which is involved in regulating the stress response, but this requires further investigation. **Methods:** Data came from the Barwon Infant Study (BIS), a population-based cohort study of over 1000 women recruited during pregnancy and followed over time. Women were administered the Edinburgh Postnatal Depression Scale (EPDS) to assess depressive symptoms and anxiety, as well as the Perceived Stress Scale (PSS). Extensive data on maternal socio-economic, lifestyle and health factors was also available. Locus-specific DNA methylation in the 1F promoter region of *NR3C1* was investigated using Sequenom MassArray analysis. **Results:** Around 1 in 5 women were classified as having mild depression (EPDS≥10) and a similar number with anxiety. Perceived stress scores were normally distributed. Maternal depression, anxiety and stress were all positively associated with methylation levels at a specific region of the *NR3C1* gene. Effect sizes were small, but remained significant after adjustment for a range of potential confounding factors, including antidepressant use. **Conclusion:** In this largest study undertaken in the field to date, maternal stress exposures were found to have a small but significant association with *NR3C1* cord blood methylation in the neonate. Whether or not these effects could be biologically significant requires further investigation, with gene expression experiments planned.

7. Neurostructural effects of electro convulsive therapy in patients with major depression

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Introduction: Electro convulsive therapy (ECT) is one of the most effective treatments for severe depression. So far little is known about biomarkers regarding brain structure as a predictor of ECT response. **Methods:** The present study included patients with therapy-refractory Major Depressive Disorder (MDD), treated with ECT (n =24) and a MDD sample treated with drugs (n = 23). A healthy control sample (n = 23) was additionally recruited. Structural gray matter data were obtained at the University of Münster, Germany, using 3T-MRI. Voxel-based morphometry was used to compare local gray matter volume. To investigate ECT-related structural changes, a 3 x 2 ANOVA was performed, using a full factorial design matrix with the factors group (ECT vs. No-ECT vs. HC) and time (T1 vs. T2), with group as between-subject factor and time as within-subject factor. Additionally an exploratory model regressing Hamilton Depression Rating Scale (HDRS) score changes on whole brain gray matter volume was performed. **Results:** First, ECT in MDD patients is associated with significant gray matter increases in hippocampal areas (whole brain, FWE corrected), an area strongly associated with MDD. These gray matter volume increases were not found in the medication sample (No-ECT). Further, we found a positive association between the gray matter volume of subgenual areas of the cingulate cortex (time 1, before treatment) and ECT response measured with HAMD. **Discussion:** ECT treatment is associated with gray matter volume increases in hippocampal areas which might be one of the efficient causes of ECT. Further, this is the first study predicting ECT response by using structural brain data obtained before treatment. In future, neuroimaging techniques might be promising tools to predict the therapeutic effectiveness of ECT.

8. C-reactive protein gene variants: independent association with late-life depression and circulating protein levels

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Background: C-reactive protein (CRP) is a heritable biomarker of systemic inflammation which is commonly elevated in depressed patients. Variants in the *CRP* gene which influence protein levels could thus be associated with depression but this requires further investigation. **Methods:** Depression was assessed in 990 people aged at least 65 years as part of the ESPRIT Study. A clinical level of depression (DEP) was defined as having a score of $\geq$16 on the Centre for Epidemiology Studies Depression scale or a diagnosis of current major depression based on the Mini International Neuropsychiatric Interview and according to DSM-IV criteria. Five single-nucleotide polymorphisms (SNPs) spanning the *CRP* gene were genotyped and circulating levels of high-sensitivity CRP were determined. Multivariable analyses adjusted for socio-demographic characteristics, smoking, ischemic pathologies, cognitive impairment, and inflammation-related chronic pathologies. **Results:** The minor alleles of *rs1130864* and *rs1417938* were associated with a decreased risk of depression in women at Bonferroni corrected significance levels (p=0.002). There was no significant association between any SNPs and late-life depression in men. *CRP* gene variants were associated with serum levels in a gender-specific manner, but only *rs1205* was found to be nominally associated with both an increased risk of DEP and lower circulating CRP levels in women. **Conclusion:** Our findings provide epidemiological support for the involvement of *CRP* variants in late-life depression; the associations were specific to women and remained significant after controlling for pre-existing medical illnesses. Variants of the *CRP* gene also influence circulating CRP levels differently in women and in men, but this does not appear to modulate the association with depression. Our data suggest that *CRP* variants could be a better marker of depression than CRP levels but replication is required. Further longitudinal studies are also needed to unravel the underlying pathophysiological mechanisms which could link inflammation and later-life depression.

9. In bipolar disorder decreased hippocampus size is correlated with the modifiable factors body mass index and leptin serum levels independently of number of previous mood episodes

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Background: Alterations in brain structures have been widely reported in patients with bipolar disorder (BD). The aim of this study was to determine the effect of increased BMI on hippocampus size and serum levels of adipokines in patients with BD and controls. **Methods:** 31 patients were enrolled from the Bipolar Disorders Program at HCPA (Brazil). Inclusion criteria were age >18 years, fulfill DSM-IV criteria for bipolar I, and meet criteria of remission on the 17-HAM-D and the YMRS. The control group consisted of 54 healthy volunteers with no current or previous history as well as no first-degree family history of a major psychiatric disorder, including dementia or mental retardation assessed by the non-patient version of the SCID for DSM-IV. Peripheral blood (10mL) was collected by venipuncture, processed and stored until analysis. Images were acquired using a Philips Achieva 1.5T MRI scanner and processed using the automated pipeline of FreeSurfer v5.1. **Results:** BMI ($p=0.019$) was higher in BD patients compared to controls and there was a trend of increased leptin serum levels ($p=0.052$) in patients with BD. Total hippocampus ($p=0.042$) and left hippocampus ($p=0.019$) volumes were smaller in BD than in controls. There were negative correlations between total and left hippocampus (TH and LH) size with BMI ($p=0.020$, $r=-0.255$, TH; and $p=0.012$, $r=-0.279$ LH) and with leptin serum levels ($p=0.023$, $r=-0.411$, TH; and $p=0.031$, $r=-0.233$, LH). There was also a negative correlation between number of mood episodes, total ($p=-0.016$, $r=-0.487$), left ($p=0.024$, $r=-0.456$) and right ($p=0.025$, $r=-0.456$) hippocampus volumes. **Conclusion:** The hippocampus is particularly vulnerable neurotoxicity. This is the first study to show that increased BMI acts independently of illness progression in reducing hippocampus volume. Obesity is a modifiable risk factor for the neuroprogression of BD, suggesting that nutritional interventions are highly desirable for better outcomes in BD.

10. The effect of Resveratrol on cardiometabolic health in patients with severe mental illness: a pilot study

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Background: Cardiometabolic health in the severely mentally ill has long been under-recognised and undertreated. It significantly contributes to the premature morbidity and mortality of this population. Resveratrol is a naturally occurring compound with a unique mode of action that has been shown to have broad-spectrum putative cardiometabolic benefits. This pilot study was designed to assess the tolerability of resveratrol tablets. The primarily aim was to discover any barriers to acceptability that may impact on the participant retention and effectiveness of future larger studies in the severely mentally ill population. As a secondary outcome, the study sought to assess the effect of resveratrol on cardiometabolic status. **Methods:** Resveratrol tablets were prescribed for patients of cardiometabolic risk in a small sample of individuals with schizophrenia from a long-term inpatient rehabilitation service at Concord Hospital, NSW, Australia. The participants were interviewed at regular intervals throughout the trail phase to monitor adherence, side effects and tolerability. Pathology tests and physical examinations were performed prior to commencement and at cessation of the reseveratrol. **Results:** Despite being a "captive cohort", there were difficulties with recruitment and retention of the individuals. There were several patient-reported concerns including side effects that influenced adherence including the side effect of diarrhoea, as well as difficulties with the tablets themselves. Pathology and physical examination findings were of limited generalisability, though did show a trend towards improvement. **Conclusion:** Resveratrol is a promising compound to improve the cardiometabolic health for those with severe mental illness however consideration of the practical aspects of administration, including size, taste and number of tablets as well as the side effects is recommended for future studies. In addition, awareness of the challenges involved in recruiting individuals with severe mental illness to clinical trials is important for future success with this population.

11. Searching suicide

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Background: The internet is a common source of information for people experiencing thoughts of suicide, especially young people. However, many potentially harmful online resources for those who may be vulnerable to suicide exist, including information on suicide methods and pro-suicide forums. Considering the recent increase in online support and treatments for those experiencing thoughts of suicide, it is not clear whether an individual searching the internet for assistance with these thoughts is likely to encounter predominantly helpful or potentially harmful resources. **Methods:** A Google search was performed using 12 terms related to suicidal thoughts, including "suicide," "wish I was dead" and "how to kill myself." The first two pages of results for each term were assessed for content e.g. source, perspective on suicide, whether links to support services were provided, and whether any online treatment was offered. **Results:** 235 web pages were identified, representing 158 parent sites. The content of these sites was highly variable depending on the search term. Generic terms such as "suicide" predominantly directed to suicide prevention sites such as Lifeline or Suicide Prevention Australia. More specific terms such as "how to kill myself" led to a higher proportion of sites with a pro-suicide perspective, and in some cases provided specific information on methods of suicide. Results were also influenced by current events such as celebrity suicides. **Conclusion:** While individuals searching for help dealing with suicidal thoughts may be directed to appropriate services, many potentially harmful resources also appear online. Although the internet is a valuable means of disseminating new research findings and suicide prevention initiatives, care must be taken to ensure that online information and support services are linked with a wide range of suicide-related search terms, to ensure that those who use the internet as a source of help for suicidal thoughts are appropriately directed.

12. Citation content misrepresentation in the psychiatric/mental health literature

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Background: Like medicine more broadly, psychiatry relies on rigorous citation of evidence in the academic literature. It is assumed that formal peer review ensures that most inaccuracies in journal articles are systematically detected and corrected before publication, and that post-publication peer scrutiny addresses any errors that slip through. However, peer review focuses primarily on methodology and interpretation of findings, and sometimes overlooks inaccuracies in the introduction/background sections of articles. Many of these inaccuracies involve citation content misrepresentation (referred to by Greenberg 2009 as 'citation diversion'), in which the content of cited sources is reported misleadingly. This is not uncommon in the medical literature (Slawson & Shaughnessy 1997). It is often compounded by secondary citation, which hampers critical analysis of the accuracy of citation of original sources. To date, very little attention has been paid to citation content misrepresentation. **Methods:** Analysis of common cases of citation content misrepresentation in the psychiatric/mental health literature, and development of a framework of types of citation content misrepresentation relevant to psychiatry. **Results:** Some types of citation content misrepresentation are common in the psychiatric/mental health literature, including peer-reviewed academic journals, textbooks, and grey literature publications (reports, guidelines, policy documents, etc.). This is often compounded by secondary citation and unreferenced statements. Key types of citation content misrepresentation include: conflation of point prevalence and period prevalence; inappropriate generalisation of findings from tertiary treatment samples to primary care and general population samples; conflation of treated and untreated samples; conflation of primary prevention and relapse prevention; and disregard of limitations identified by source authors. Prognosis (including progressiveness and mortality) and effectiveness of treatment feature prominently in misrepresentations. Epidemiological claims in particular lack critical scrutiny. **Conclusion:** There is a need for more rigorous pre-publication peer review, more critical peer scrutiny of published literature, and stringent restrictions on secondary citation.

13. Contribution of the *APOE* ε4 and *MTHFR* C677T polymorphisms to the risk of late-life depression: systematic review and meta-analyses

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Background: The apolipoprotein E (*APOE*) ε4 and methylenetetrahydrofolate (*MTHFR*) C677T polymorphisms have been implicated in vascular disease and may play a role in cognitive ageing and late-life mood disorders. However, previous studies investigating the relationship between these two polymorphisms and late-life depression have reported inconsistent results. The present study examines the associations of the *APOE* ε4 allele and *MTHFR* C677T T/T genotype with late-life depression. **Methods:** Systematic searches were conducted in MEDLINE, EMBASE and PsycINFO. Case-control and cross-sectional studies reporting clinically diagnosed depression or using validated depression rating scales and the *APOE* ε4 and *MTHFR* rs1801133T genetic polymorphisms in older adults were selected. Studies were excluded if (1) cases included psychotic depression, bipolar disorder or other psychiatric disorders, (2) controls had a history of depression or other psychiatric disorders, (3) depression was secondary to other medical conditions, (4) the sample was cognitively impaired, or (5) there was insufficient information to calculate an odds ratio. Meta-analyses using the selected studies were undertaken and pooled odds ratios with 95% confidence intervals calculated using random effects models. Sensitivity analyses were performed by sequential omission of individual studies. Potential publication bias was examined using funnel plots. **Results:** A total of 30 *APOE* ε4 studies with 29,294 participants and 9 *MTHFR* studies with 11,519 participants were included. There was significant heterogeneity among *APOE* studies but not *MTHFR* studies. The *APOE* ε4 allele was associated with a slight increase in risk of late-life depression (ε4 vs non-ε4: OR=1.18, 95% CI=1.04-1.34), but no significant association with the *MTHFR* T/T genotype was observed. Sensitivity analyses suggested the results are robust. While a few smaller studies reported exaggerated effect sizes, there was no evidence of publication bias. **Conclusion:** The *APOE* ε4 allele, but not the *MTHFR* T/T genotype, was associated with an increased risk of depression in older adults.

14. Evaluation of meta-cognitive group training for psychosis spectrum disorders in an outpatient setting: Australian study

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Background: Metacognitive Training (MCT) is a novel treatment approach that is designed to treat positive symptoms of psychosis, most notably delusions. MCT helps consumers identify cognitive distortions, maladaptive ways of perceiving and evaluating the world that are thought to underlie the development and maintenance of delusions. This study sought to evaluate the effectiveness of a manualised, 8-week group treatment of psychosis in an outpatient community mental health clinic in Northern Adelaide, South Australia. **Methods:** Subjects with schizophrenia, schizoaffective disorder, or drug induced psychosis were recruited from community mental health service. Group sizes ranged from 6-7 consumers and a number of groups were run over a 12-month period, starting in February, 2014. All consumers were administered the following measures: Kessler Psychological Distress Scale (K-10), the Positive and Negative Syndrome Scale (PANSS), the Peters Delusions Inventory-21 items (PDI-21), and a Consumer Evaluation Questionnaire developed by the authors. The PANSS was administered by PANSS trained psychiatry registrars who did not take part in the treatment to ensure objectivity. Consumers participating in social activity groups will be used as a comparison group. **Results:** Based on the existing evidence from research literature, the authors anticipate observing a pattern of reduced psychopathology across a range of domains. Most notably, we anticipate a reduction in preoccupation with delusions, delusion-related distress, and the level of conviction in the truthfulness of delusions. We anticipate that this will also be reflected in the reduced K-10 score, as well as an objectively verified increase in insight levels as measured by the PANSS. **Conclusion:** If a significant reduction in levels of delusional ideation and psychological distress is established, along with improvement in insight, group MCT treatment will be an important, cost-effective treatment of psychosis in addition to established treatments, such as psychopharmacology and CBT.

15. Mobile technologies delivering ecological momentary interventions for stress and anxiety: a systematic review and meta-analysis

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Background: Face-to-face therapy is effective in treating stress and anxiety problems. However, current treatments remain suboptimal in treating stress or anxiety symptoms in real-time. Ecological Momentary Interventions (EMI) delivered through mobile technologies may be suitable for treating symptoms as they emerge in the person's immediate environment. However, to date no systematic review has specifically focused on determining the effectiveness of different EMI technologies for treating anxiety conditions. **Methods:** The PubMed, Medline, ScienceDirect, and Cochrane databases were searched using keywords and MeSH terms covering the concepts of "ecological momentary intervention", "anxiety", and "mobile" or "cell phone". A total of 1927 abstracts were double screened for inclusion. Data from randomized trials and randomized controlled trials were extracted and effect sizes were calculated. Sufficient studies were available to undertake a quantitative meta-analysis on the effect of EMIs on generalised anxiety symptoms. **Results:** The 15 included studies examined EMIs targeting anxiety (n=7), stress (n=3), anxiety and stress (n=2), panic disorder (n=2), and social phobia (n=1). Eight EMIs consisted of self-monitoring integrated with therapy modules, seven consisted of simple multimedia content, and three consisted of self-monitoring. Most studies were of high risk in study's sequence generation, allocation concealment, handling of missing data, and other biases. Quantitative meta-analysis (n=7) demonstrated that EMIs reduced generalised anxiety compared to controls and/or comparison groups (ES = 0.32, 95% CI = 0.12 to 0.53). Most EMIs targeting stress were reported effective relative to control. As were the two EMIs targeting panic disorders. The EMI targeting social phobia was not effective. **Conclusion:** Findings indicate EMIs have potential in treating anxiety, stress, and anxiety disorders. However, few high quality trials have been conducted. Further trials are needed to assess the value of EMI technologies and applications for treating and enhancing existing treatments for anxiety, particularly for social anxiety and panic disorder.

16. A randomised, active-controlled rater-blinded 2-year study of paliperidone palmitate versus investigators' choice of oral antipsychotic monotherapy in patients with schizophrenia (PROSIPAL)

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Background: Recent metaanalyses have reported conflicting results on the efficacy of long-acting compared to oral antipsychotics in the prevention of relapse in patients with schizophrenia.**Methods**: 2-year international randomised active controlled, open-label, rater-blinded study evaluating time to relapse, relapse rates, psychotic symptoms (PANSS) and treatment-emergent adverse events (TEAEs) in recently diagnosed patients with schizophrenia (≥1-5 years) treated with a monotherapy of paliperidone palmitate (PP) compared to investigators' choice of oral antipsychotics (oAPs), i.e. aripiprazole, olanzapine, quetiapine, paliperidone ER, risperidone or haloperidol. **Results:** 715 patients (57.9% male, mean age 32.6±10.4 years, 86.2% paranoid schizophrenia, no significant differences in baseline characteristics) entered the 2-year core study period (352 PP, 363 oAPs). Definition of relapse was based on Csernansky et al criteria. Time to relapse was significantly longer with PP compared to oAPs ($p=0.019$, with a hazard ratio (95% CI) of 1.5 (1.1; 2.2)). The 85th percentile for time to relapse was 469 days for PP versus 249 days for oAPs. Relapse rates were significantly lower with PP vs oAPs (14.8% vs 20.9%; $p=0.032$), reflecting a relative risk reduction of 29.4%. Reduction of psychotic symptoms in PANSS was significantly superior with PP at treatment day 8 ($p=0.021$) and showed a trend in favor of PP at endpoint ($p=0.075$). TEAEs reported in ≥5% in any group (PP vs oAPs) were weight increase (15.9% vs 17.4%), headache (11.1% vs 8.5%), insomnia (9.7% vs 8.0%), schizophrenia (8.2% vs 9.6%), nasopharyngitis (7.1% vs 5.0%), injection site pain (6.8% vs 0%), anxiety (5.7% vs 4.4%), tremor (5.1% vs 2.2%) and suicidal ideation (4.5% vs 5.5%). **Conclusion**: In this randomised active controlled 2-year study PP was significantly delaying time to relapse and reducing relapse rates compared to investigators' choice of oral APs.

17. Paliperidone palmitate in acute patients with schizophrenia – Treatment response, safety and tolerability: a prospective flexible dose study in patients previously unsuccessfully treated with oral antipsychotics

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Background: Exploring treatment outcomes with once-monthly paliperidone palmitate (PP) in more representative patients with schizophrenia may guide recommendations for use of and transition to PP. This study explores tolerability, safety and treatment response of flexible doses of PP in adult patients with an acute exacerbation of schizophrenia previously unsuccessfully treated with oral antipsychotics. **Methods:** International prospective 6-month, open-label study. Outcome parameters were change in Positive and Negative Syndrome Scale (PANSS) total score, Clinical Global Impression-Severity Scale (CGI-S), adverse events (AEs), and weight change. **Results:** 212 acute patients (ITT, intent-to-treat population): 59.0% male, mean age 36.4 ±12.1 years, 85.4% paranoid schizophrenia were enrolled. Main reason for transition from prior oral antipsychotic treatment was lack of efficacy in 45.8% of patients. 70.3% of patients completed the 6-month study. Most frequent reasons for early discontinuation were subject choice (9.4%), AE (9.0%), loss to follow-up (4.7%) and lack of efficacy (2.8%). Recommended initiation regimen of PP (150 mg eq on day 1 and 100 mg eq on day 8) was administered in 92.9% of subjects. Mean baseline PANSS total score decreased from 98.5±20.1 as of day 8 of treatment to 67.4±24.0 at endpoint (mean change -31.0±28.97; 95% confidence interval [CI]-35.0;-27.1; $p<0.0001$). 66.7% of patients improved ≥30% in PANSS total score and percentage of patients rated markedly ill or worse in CGI-S decreased from 75.1% at baseline to 20.5% at endpoint. AEs reported in ≥5% were injection site pain (13.7%), insomnia (10.8%), psychotic disorder (10.4%), headache (6.1%) and anxiety (6.1%). Mean weight change at endpoint was 2.6±5.6 kg (95%CI 1.8; 3.4). **Conclusions:** These data support results from previous randomized controlled studies that flexibly dosed paliperidone palmitate is well tolerated and associated with an early and clinically relevant treatment response in acute schizophrenia patients previously unsuccessfully treated with oral antipsychotics.

18. A pilot investigation of motivation, technology literacy and knowledge of schizophrenia among South Australian adults with a diagnosis of schizophrenia

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Background: Websites with information related to schizophrenia are available online. Patients with schizophrenia may access those websites. Regardless of the quality of information, some level of technology literacy is required to access those websites effectively. Depp et al. (2010) suggest that the negative symptoms of schizophrenia, including amotivation, may discourage the use of technology among this sample. Medalia and Brekke (2010) state that a patient's motivation is critical in treatment participation and daily activities, and propose the use of theories of motivation, e.g., Expectancy-Value Theory and Self-Determination Theory, to study avolition. Given increasing access to technology, it may be worthwhile to investigate the use of technology among adults with schizophrenia, their levels of motivation and knowledge of schizophrenia. **Methods:** 10 South Australian adults with schizophrenia will be invited to complete structured questionnaires. In the questionnaires, the constructs will largely be based on Expectancy-Value Theory and Self-Determination Theory. The questionnaires will be utilised to assess demographic information, levels of perceived competency, intrinsic, utility, attainment & cost value of activity, intrinsic & extrinsic goals of operation, drive/needs, positive & negative symptoms, and knowledge of schizophrenia. Participants will also be asked to demonstrate to researchers their technology competency, within the context of mental health rehabilitation. **Results:** Responses from participants will be computed with the use of SPSS and Microsoft Excel. No research hypotheses will be tested. Instead, this study will be conducted, firstly, to assess the time required to complete the questionnaires and to demonstrate technology competency, secondly, to determine the quality of the questionnaires, and lastly, to estimate the variability of key variables. **Conclusion:** In summary, this study will help improve the research methodology in the area of technology literacy and explore constructs that are essential in preparation for a prospective full-scale analysis of the factors that promote technology literacy in people with schizophrenia.

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19. A clinical practice change intervention to increase dietitian provision of depression screening and referral for head and neck cancer patients

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Background: Given the prevalence and adverse effects of psychological distress on treatment outcomes, particularly the influence of depression on nutritional outcomes, clinical practice guidelines recommend dietitian screening and referral of head and neck cancer patients for psychosocial distress. However, research suggests that the provision of this care is sub-optimal. This study describes a clinical practice change intervention that aims to improve the provision of depression screening and referral by dietitians in head and neck cancer patients undergoing radiotherapy. **Methods:** The study employs a multi-site, stepped-wedge randomised controlled trial design. The intervention will be implemented across five Australian radiotherapy departments who provide care to patients with head and neck cancer. The intervention to facilitate depression screening and referral will include the following evidence based clinical practice change strategies: executive support, staff training, academic detailing, systems and prompts, performance audit and feedback and provision of tools and resources. The primary outcome is the increase in depression screening and referral by dietitians in head and neck cancer patients at initial session, which will be assessed via audiotape of dietitian clinical consultation with patients and medical record audits. Dietitian ratings of how helpful the intervention components are will also be evaluated. **Results:** 0% (n=105) of control (pre-intervention) patients were screened for distress by dietitians. The intervention has been implemented at two sites thus far. The intervention components, including staff visits, feedback reports, resources and supervision have been well received and rated positively by the participating dietitians. **Conclusion:** This study is the first to implement a multi-component clinical practice change intervention in increasing the provision of dietitian depression screening and referral in head and neck cancer patients. If effective, the intervention could serve as a model for improving the implementation of guidelines in other outpatient clinics in Australia and internationally.

20. Recruitment of medication-naive first episode psychosis patients to research: impact of clinical referral pathway

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Background: The OPTiMiSE Study is a European lead multi-site trial recruiting medication-naïve clients experiencing first episode psychosis to complete a 3-phase medication intervention. The several European sites involved have recruited 344 participants. However, recruitment in Melbourne has been less successful using an identical protocol. We present data supporting the idea that clinical referral pathway differences between countries contributes to this recruitment discrepancy. **Methods:** Identification of potential participants occurred through the intake program at a specialist intervention service in Melbourne, Australia, between June 2012 and May 2014. Researchers determined eligibility through a process of discussion with the treating team, consultation of medical files and attendance at reviews. A general understanding of clinical referral pathway differences across countries was established through a literature review. **Results:** A total of 785 clients were referred to the service reporting psychotic symptoms during the recruitment period, with 759 subsequently deemed ineligible. Common reasons for exclusion included receiving neuroleptic medication over a prolonged period (30.2%), referral out of service (21.1%) and not meeting psychotic diagnostic criteria (19.8%). The literature review indicated successful European recruitment sites have developed initiatives whereby patients with suspected psychosis are actively identified through non-specialist community services and then managed clinically within the specialised service. Comparatively, the Melbourne site awaits direct referrals from non-specialist services no longer able to effectively manage patients with suspected psychosis. **Conclusion:** Findings support the notion that clinical referral pathways impact on recruitment success. More 'active' referral systems to specialised services is considered a factor that works favourably with the current study design by minimising the likelihood of an individual receiving neuroleptic medication prior to consent. The 'passive' referral process used within the Melbourne site may subsequently limit recruitment of medication naïve participants. Adequate assessment of compatibility between trial protocol and referral pathways at potential recruitment sites should be considered prior to initiation.

21. The cultural responsiveness of mental health and drug and alcohol support services for resettled refugee youth in northern Adelaide

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This presentation is part of the TRU NORTH Mental Health Research Group within The Northern Adelaide Local Health Network (NALHN). **Background:** Over the last ten years South Australia (SA) has resettled 151,134 refugees under the humanitarian program. One third (33%) of these arrivals were resettled in the Salisbury and Playford areas of northern metropolitan Adelaide. The majority (63%) of refugees in this region were under the age of 25 years on arrival. Research indicates refugee youth are faced with multiple risk factors pre, during and post migration, placing them at risk of developing psychiatric and substance use disorders. Northern Adelaide is an area which experiences significant disadvantage with the highest proportion of people in receipt of government benefits in SA, high unemployment rates and low levels of education. The low socio-economic status of these areas and the large number of refugee youth residing there prompted investigation into whether the mental health (MH) and alcohol and other drug (AOD) services are adequately equipped and resourced to respond appropriately to this population. **Methods:** Workers employed in a management or leadership role at a MH, AOD or related service which provides support to youth aged 12-25 years in northern Adelaide were invited to participate in an online survey. Information was collected concerning culturally appropriate service provision such as staff training, data collection and access to resources, funding and interpreters. **Results:** Fifty-six participants took part in the survey (40 complete, 16 partially-complete). Participants indicated that their organisation engaged with individuals from a variety of cultural and refugee backgrounds. Despite this, findings highlighted inadequate data collection by services regarding this population, a lack of staff training and inadequate access to resources and funding. Only 15% of managers believed their staff were adequately trained to provide treatment to refugee clients. **Conclusion:** Results yielded significant gaps in the service response for resettled refugee youth. Priority areas were identified and recommendations for organisations to improve their cultural competency and responsiveness are presented.

22. Integrated Mental Health Inpatient Units (IMHIU): reducing the burden of mental health for rural communities

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Background: The burden of mental health upon rural Australian communities is well known. Historically hospitalization for episodes of acute mental ill-health has involved transfers to metropolitan hospitals. In 2014, Country Health SA opened Integrated Mental Health Inpatient Units (IMHIU) in Berri and Whyalla. These six bed open units allow people to remain in or near their local rural community. This study will evaluate the impact of the IMHIU from a client, consumer, staff and management perspective. **Methods:** The University of Adelaide academics (ER & JN) were appointed by CHSA to independently evaluate the IMHIU service. Interviews were conducted with 30 clients' post-discharge, carers, IMHIU staff and other health providers. Initial thematic analysis and findings are presented. **Results:** Most participants had experience of transfer and hospitalization in a metropolitan facility to compare with their IMHIU experience. There was a consistent positive appreciation for the opportunity to remain in a rural community. Clients reported reduced trauma, improved rapport with other rural clients in group therapy, opportunities to re-enter their community for social outings with support workers and meetings with NGO and community mental health clinician working in collaboration with IMHIU staff. Carers reported reduced stress, isolation and financial strain and greater capacity to maintain their home, family and employment while supporting their hospitalized loved one. Personalised client-staff relationships, unique interprofessional team operations and opportunities to interact with the community for discharge planning promoted job satisfaction for staff. **Conclusion:** Initial findings indicate that the IMHIU are promoting improved quality of life for families and health professionals managing mental illness. A continuum of care is evident when compared with upheaval experienced as result of transfers to Adelaide. Further analysis in regards to the length of hospitalisation, controlled for presentation, is planned to explore whether the IMHIU is reducing hospital costs to compliment the reduced social costs demonstrated in this research.

23. Primary health nurse intervention for consumers of the western community mental health services

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Background: People with serious mental illness have a 10 to 25 year shorter life expectancy with a four times higher risk of developing diabetes and three times higher risk of dying from coronary heart disease than the general population. Studies continue to demonstrate inadequate physical health care of mental health consumers. In order to improve the physical health of Western Community Mental Health Service (WCMHS) consumers a partnership with the Primary Health Network was discussed. Before progressing discussions we wanted to test the hypothesis that having a dedicated nurse attached to WCMHS would increase the uptake of physical health screens and improve consumer health outcomes. **Methods**: Following a medical or treatment administration appointment at WCMHS, individual consumers were interviewed and a physical health assessment provided. Targeted interventions for physical health improvement, health literacy and health promotion were then provided to encourage positive behaviours, self - management and reduce risk associated with poor physical health. **Results**: Of the 133 consumers assessed 39 required a referral to GP care for previously unknown health issues; elevated blood glucose, elevated blood pressure, tachycardia or obesity related health issues. 72 consumers engaged in 1-3 individual intervention sessions resulting in 49 consumers losing weight ranging from 1 to 25kg with an average of 3.5 kg. Data collected demonstrated improved consumer physical well-being and an increased ability to self - manage their physical health. Mental health clinicians' proactive attitude regarding physical health care for consumers and collaboration with primary care services also improved. **Conclusions**: An inconsistent public approach and existing structures in the healthcare system have proved ineffective for mental health consumers to manage chronic physical health conditions. To continue to achieve the improved physical health care outcomes of mental health consumers, a partnership with primary health care to provide a dedicated metabolic health nurse is recommended.

24. Student views on privacy in the development of a university mental health virtual clinic

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Background: Traditional university-based mental health services tend to be delivered face-to-face, which may be more time consuming and less cost-effective than distal interventions, and contribute to a high clinical load in the tertiary setting. Therefore, there is a need to develop online services for university students that have the capacity to complement existing services and efficiently address student mental health in universities. Privacy has emerged as a critical concept in the development of this online service. However, little research is available on the personal information that participants are comfortable providing and whether it presents a barrier to accessing online services. **Methods:** Two stages of data collection were conducted. The first stage consisted of four 1.5-hour focus groups conducted with university students ($n = 19$; 10 female, 9 male) to determine their views on online help-seeking for mental health problems, and their ideas about components of the virtual clinic and how they could function. The second stage comprised three 1-hour prototype development sessions conducted with university students ($n = 6$; 3 male, 3 female) using participatory design methods to engage participants in the development and refinement of a service model for the virtual clinic and determine their views on privacy issues. **Results:** The students raised a number of issues related to privacy in relation to the development of the university virtual clinic. The major topics related to the university's *access to their personal information* and *what information* would be asked, the *stigma* associated with registering for the service, and privacy concerns related to *online forums* as part of the virtual clinic. **Conclusions:** The results suggest that privacy is a key consideration in the development of online services for university students.

25. E-mental health in practice: enhancing uptake of e-mental health in primary health care

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Background and Aims: As part of the Australian Government E-Mental Health Strategy, the e-Mental Health in Practice (eMHPrac) Project has been established to build linkages between e-mental health services and the wider health sector including those in rural and remote regions. eMHPrac is a three-year project providing training and support in e-mental health to General Practitioners, Allied Health professionals and service providers working with Aboriginal and Torres Strait Islander people. The project aims to increase health practitioner awareness and use of e-mental health, including referral to e-mental health services and programs. **Methods:** Cross-sectional online surveys measuring practitioner awareness, confidence and attitudes towards e-mental health are conducted each year of the project. These surveys present a snapshot of practitioners' awareness and use of e-mental health by profession, age, gender and region (metropolitan, regional, rural or remote). Training in e-mental health is delivered in the second year of the project, with awareness, confidence and attitudes measured pre- and post-training and again after 6 months. In collaboration with Australian e-mental health service providers, yearly referral data to these services will also be collated to investigate referral and utilisation changes over time. **Results:** This paper presents the results of the first year of cross-sectional surveys and referral data collected between July 2013 and June 2014. Baseline levels of health professional awareness, confidence and use of e-mental health are reported with specific breakdown by profession, age, gender and region of practice. In addition, baseline proportions of e-mental health service users who were referred by a health professional will be presented. **Conclusions:** The implications of the baseline survey findings and referral rates for the training activities scheduled for the second year of the project will be outlined, along with the issues for specific health professions and their engagement and utilisation of e-mental health resources.

26. An open-label, prospective, non-comparative study to evaluate the efficacy and tolerability of Paliperidone Palmitate in patients with acute schizophrenia

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Background: To evaluate the efficacy and tolerability of paliperidone palmitate (PP) over 13 weeks in hospitalized patients with acute exacerbation of schizophrenia. **Methods:** This open-label, prospective, non comparative, multicenter, phase 4 study enrolled Asian patients of either sex, aged ≥18 years, diagnosed with schizophrenia (Diagnostic and Statistical Manual of Mental Disorders-IV) with acute exacerbations within past 4 weeks. Patients received PP intramuscularly - initiation dose 150 (day 1) and 100 mg equivalent (eq.) (day 8), and monthly maintenance dose between 75 and 150 mg eq. (days 36 and 64). Primary endpoint was change from baseline in the Positive and Negative Syndrome Scale (PANSS) total score (last-observation-carried-forward) at 13 weeks. **Results:** Overall, 152/212 patients (recently diagnosed [≤3 years]=49/60 [81.7%]; chronically ill [>3 years=103/152 [67.8%]) completed the study. At baseline, 70% of patients were markedly or extremely ill, per Clinical Global Impression-Severity (CGI-S); mean (SD) Personal and Social Performance (PSP) score was 42.8 (13.4); score ≤30, n=23.6% patients. PANSS total score improved significantly (mean [SD] from baseline 90.0 [17.41] to day 4, −6.1 [9.27] and week 13, −23.9 [23.24]; $p<0.001$ for both), and was greater in the recently diagnosed (baseline, 89.4 [13.25]; day 4, −8.7 [9.60]; week 13, −31.4 [18.19]) versus chronically ill (baseline, 90.2 [18.83]; day 4, −5.1 [8.96]; week 13, −20.21 [24.40]) patients; $p<0.001$ for all. Significant improvements occurred from baseline to week 13 in the secondary endpoints CGI-S, PSP, each PANSS subscale and Marder Factor scores ($p<0.001$ for all), and in the ≤30% responder rate (63.8%). Constipation, nasopharyngitis, insomnia, increased weight, and tremor were the most common (>5%) treatment-emergent adverse events (TEAEs). Worsening of schizophrenia (3.3%) and bradycardia (1.4%) were common serious TEAEs; no deaths were reported. **Conclusion:** PP was efficacious with better outcomes in hospital setting, and in recently diagnosed schizophrenia patients versus chronically ill patients. PP was generally tolerable.

27. Efficacy of Paliperidone Palmitate and its impact on hospitalisation in patient with recent-onset schizophrenia switched from oral antipsychotics

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In 18-month, open-label, phase-3b study, paliperidone palmitate (PP) was assessed for efficacy and impact on hospitalization in patients with schizophrenia unsatisfactorily treated with oral antipsychotics. Patients (18-50 years) with recent-onset schizophrenia (≤5 years) were switched from prior oral antipsychotics to PP (day 1:150 mg eq., day 8: 100 mg eq., then flexible once monthly maintenance: 50-150 mg eq.). Primary efficacy endpoint was change from baseline to month-18 in Positive and Negative Syndrome Scale (PANSS) total score (paired t-test), with exploratory subgroup analyses performed for PANSS baseline total score categories (≥70 and <70) using analysis-of-covariance. A mirror analysis was conducted to compare number and duration of hospitalizations during prospective (12- and 18-month PP treatment) and retrospective (12-months before PP initiation) periods. 303/521 (58%) patients completed study. Mean PANSS total score improved significantly from baseline to month-18 (-11.3,p<0.0001);subgroup analysis revealed greater improvements among patients with worse disease severity at baseline: PANSS ≥70 vs. <70 (mean change: -23.1 vs.-4.7,p<0.0001 each). Over prospective period (N=474, mirror analysis set), PP significantly lowered mean number of hospitalization days/person/year (12-month: 19.7 vs. 74.3,p<0.0001;18-month:18.9 vs.74.3,p<0.0001) compared with retrospective period. Percentage of patients requiring hospitalization in past 12-months also significantly reduced (12-month: 24.6% vs. 39.7%;18-month:25% vs. 39.7%,p<0.001 each),and those not requiring hospitalization significantly increased in prospective vs. retrospective period (12-month:75.4% vs. 60.3%;18-month: 75% vs. 60.3%,p<0.001 each). Similarly, >1-year schizophrenia history patients (%) requiring hospitalization in past 12-months significantly reduced (12-month: 23.9% vs. 30.8%;18-month: 24.5% vs. 30.8%,p<0.001 each), while those not requiring hospitalization significantly increased (12-month: 76.1% vs. 69.2%;18-month: 75.5% vs. 69.2%, p<0.001 each) in prospective vs. retrospective period. Adverse events (≥15%) were extrapyramidal symptoms-related (31.3%), injection-site pain (18.6%), insomnia (15.2%). Switch to PP for schizophrenia patients relapsed on oral antipsychotics from Asia-Pacific was effective and generally tolerable with reductions observed in number of hospitalizations and days spent in hospital.

28. "Pure Rush": development of a serious educational game to prevent drug use in adolescents

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Background: With one in six Australians aged 12–17 reporting illicit drug use, there exists a need for drug education that is as engaging as it is evidence-based. Learning is most effective when it is active, enjoyable, problem-based and provides feedback. Serious games (video games for non-entertainment purposes) are prime candidates to utilise these principles, and are associated with higher motivation, engagement and knowledge acquisition, relative to traditional modes of learning. This study aimed to develop and gauge the feasibility and acceptability of an engaging evidence-based interactive online Australian serious drug education game. **Method:** A literature review on existing serious drug education games was conducted (Rodriguez, Teesson, & Newton, 2014) before an initial focus group gauged the feasibility of the serious game. Based on this student feedback, a game prototype created was created and reviewed by a second focus group. The game is currently being evaluated to see whether it can lead to greater changes in drug content knowledge, drug-related attitudes and intentions to use, relative to a non-interactive lesson. **Results:** The literature review identified six serious games on illicit drugs. The four that were available online were intended to substitute existing lessons, with all including approximately two hours of gameplay. All were developed for overseas contexts. The initial focus group revealed desire for a shorter, points-based arcade style game. Developers and researchers developed a prototype based on this feedback, which was deemed feasible and acceptable by subsequent focus groups. **Conclusion:** The findings of this study have important implications for school-based drug prevention. Serious games are a feasible and acceptable vehicle for drug education delivery. They also have the potential to engage students who may otherwise not be receptive to traditional drug education, and can also be consistently implemented and evaluated across Australian classrooms.

29. Young people's barriers and attitudes to seeking help for eating disorders

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Background: Adolescence and early adulthood are critical life periods in which first onset of mental health problems often occur. Eating disorders are severe mental illnesses, and yet many young people tend not to seek professional support for various reasons. The aim of the current study was to explore attitudes and barriers towards help-seeking for eating disorders in a sample of high school students in Germany. **Methods:** This study was part of the project ProYouth, a European initiative for the promotion of mental heath and the prevention of eating disorders. A total of 257 students (aged 12 to 18 years) from a high school in Germany participated in the study. Students completed a screening tool for eating disorders, and self-report questionnaires measuring attitudes and barriers towards seeking professional help. **Results:** Several students reporting symptoms of eating disorders, such as weight concern, binge eating, and compensatory behaviors, did not differ in their attitudes towards help-seeking from students without symptomatology. Students were significantly more likely to seek help for their friends than for themselves when experiencing an eating disorder. Exploration of barriers indicated that stigma, and self- and peer sufficiency were related to negative attitudes towards help-seeking. Perception of anticipated benefits and usefulness of therapy were positively related to students' attitudes towards seeking professional help. **Conclusion:** Results highlight the need for prevention programs and awareness campaigns to reduce barriers and increase help-seeking behaviour for eating disorders among adolescents.

30. The Y-Worri Project: an evaluation of an online anxiety prevention program in schools

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Background: Anxiety disorders are one of the most common psychological problems in adolescents. The school system has been identified as an ideal setting for the implementation of prevention and early intervention programs for anxiety; however, few programs are routinely delivered in schools and little is known about the best delivery methods. The aim of the current study is to evaluate the acceptability and effectiveness of the Internet-based e-couch Anxiety and Worry program in reducing and preventing symptoms of anxiety in an adolescent school-based population. **Methods:** 30 schools from across Australia participated in the trial ($N = 1,936$), with each school randomly allocated to one of two intervention conditions (e-couch teacher-delivered or e-couch health service supported) or to the wait-list control condition. All students were invited to complete a pre-intervention, post-intervention, 6- and 12-month follow-up questionnaire. Students in the intervention conditions undertook the e-couch Anxiety and Worry program during one class period a week for six weeks. Students in the e-couch teacher-delivered condition were supervised by their classroom teacher during the completion of the program. Students in the e-couch health service supported condition were guided in the completion of the program by a youth worker from headspace: Australia's national youth mental health foundation. **Results:** Preliminary results from the Y-Worri project will be presented, including intervention effects on generalised anxiety, social anxiety, anxiety sensitivity, and mental well-being. Differential effects for the two implementation methods will also be explored. Student satisfaction ratings indicated acceptability of the program, although feedback and adherence rates suggested briefer interventions with less text may be preferred. **Conclusion:** If found to be effective, the e-couch Anxiety and Worry program could be offered to schools to prevent and reduce symptoms of anxiety in students. Implications for school-based delivery approaches and methods for increasing engagement will be discussed.

31. A dedicated website (link) to facilitate help-seeking for young people with mental health problems: preliminary results from a pilot RCT

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Background: Mental ill-health continues to be a major public health challenge, particularly for adolescents. Whilst one in four young people experience mental disorders, only 35% seek professional help. Help-seeking intentions and access to appropriate primary care and specialist services remain a major barrier. Young people regularly turn online for mental health information and support, which offer innovative avenues for young people. Nevertheless, our recently published systematic review demonstrates that the impact of online programs on help-seeking is rarely evaluated. This pilot RCT aims to evaluate an dedicated online intervention (*Link)* to facilitate help-seeking and improve access to appropriate care for young people with mental health concerns, comparing these help-seeking outcomes with usual search strategies. **Methods:** Developed from the theory of planned behaviour using participatory design methodology, the impact of *Link* on help-seeking was examined using a pragmatic pilot RCT design based on SPIRIT guidelines with 60 18–25 year olds randomised to: (1) the *Link* intervention website, or (2) the control condition (usual search strategies both on and offline). Baseline, 1 week and 1 month follow up surveys were completed. **Results:** This pilot study will be completed in September 2014 with the preliminary findings presented. Examination of data to date suggests that young people in the *Link* arm may be more satisfied and may have an increase in help-seeking intentions and behaviour compared to usual help-seeking strategies. We will describe and compare help-seeking intentions, barriers to care and satisfaction between arms using t-tests. **Conclusion:** The potential impact this dedicated website has to direct young people to the most appropriate services for their needs with be discussed. *Link* may facilitate a stepped-care approach where face-to-face care is utilized by those with severe symptoms whilst lower intensity online services may be suitable to those with mild symptoms.

32. HeadStrong: a classroom-based educational resource for adolescent mental health literacy

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Background: Mental illness is highly prevalent amongst young people. It has been established that preventing or delaying the onset of mental health disorders in adolescence is effective in reducing this burden. However, young people are often reluctant to seek help, due to a range of factors including low mental health literacy and high stigma. Preliminary evidence suggests that educational interventions may be beneficial in overcoming these obstacles. Accordingly, the current trial aimed to improve mental health literacy and reduce stigma in adolescents, using HeadStrong, a universal, curriculum-based educational program. **Methods:** Design - This was a cluster randomised controlled trial. Schools were randomly allocated to receive either the HeadStrong resource (intervention) or to undertake Personal Development, Health and Physical Education (PDHPE) classes as usual (control) during the first term of the school year. The primary outcome measures were mental health literacy and stigma, and secondary outcomes included psychological distress and suicidal ideation, assessed at the end of Term 1 and 6 months later.Setting and Participants - 380 Stage 5 students in 22 classes (clusters) from 10 non-government secondary schools in Central West New South Wales. Intervention - The HeadStrong resource comprises a booklet, slideshow, and appendices which provide teachers with information on mood disorders and activities to implement in their classrooms. **Results:** Literacy improved and stigma reduced in both groups at post-intervention and follow-up, relative to baseline. However, these effects were significantly greater in the HeadStrong condition. **Conclusion:** The study demonstrates the potential of the HeadStrong resource to improve mental health literacy and reduce stigma in adolescent populations. More broadly, the trial represents an important step towards 'Bridging the Gap', by bolstering the evidence-base for universal educational interventions, and supporting the implementation of such programs in educational settings. The current HeadStrong resource is undergoing revision/refinement, and will be re-evaluated in due course.

33. Association between subclinical psychotic experiences and daily functioning is not moderated by coping style: evidence from two independent adolescent samples from the general population

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Background: Psychotic experiences are associated with reduced functioning, increased non-adaptive coping and reduced adaptive coping along all levels of the extended psychosis continuum. Recent evidence from a non-psychotic psychiatric adolescent sample showed that the association between positive psychotic experiences and functioning was moderated by coping. We tested whether this was also true at the general population level in two independent adolescent samples. **Methods:** Two samples were recruited from secondary schools in 1) Birmingham, UK ($N=239$; mean age=16.10, SD=0.75) and 2) Melbourne, Australia ($N=723$; mean age: 15.51, SD=0.41). Psychotic experiences were assessed on the Community Assessment of Psychic Experiences. Task-, emotion- and avoidance-oriented coping were measured on the Coping Inventory for Stressful Situations. The Multidimensional Adolescent Functioning Scale measured general, peer and family functioning. Adjusted significance level p-values were 0.0018. **Results:** Results were similar for both samples. There were significant positive associations between positive psychotic experiences and functioning (all $p<0.001$; with the exception of peer functioning in the Birmingham sample, $p=0.005$). Task- and emotion-oriented coping were associated with functioning, positively and negatively respectively ($p<0.001$; with the exception of peer functioning in the Birmingham sample). Avoidance-oriented coping was significantly and positively associated with peer functioning in the Melbourne sample, and at trend significance in the Birmingham sample ($p=0.0020$). There were no significant interaction terms. Analyses of negative subclinical psychotic experiences showed similar results, and again, no interaction terms were statistically significant. **Conclusions:** Although both psychotic experiences and coping were associated with functioning, at a subclinical level the impact of these psychotic experiences on daily functioning is not moderated by the coping style used by the individual. Understand the mechanisms by which psychotic experiences and functioning are associated will aid prevention and treatment strategies. The association between greater avoidance-oriented coping and better peer functioning warrants further investigation.

34. The social, emotional and spiritual wellbeing needs and characteristics of young people from Aboriginal and Torres Strait Islander backgrounds living in out of home care

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Background: Aboriginal and Torres Strait Islander youth are 10 times more likely to be in out of home care (OoHC) than non-Indigenous youth. Poor mental health is common among youth in OoHC, yet they lack appropriate and timely access to mental health care. As part of a larger study seeking to develop a mental health intervention (the Ripple project), this study sought to explore what mental health means to Aboriginal youth in OoHC and the aspects of care that had positive and negative affect on their mental health. In addition a census was conducted with Aboriginal youth in OoHC in metropolitan Melbourne. **Methods:** Qualitative research methods were used to explore youth perspectives of mental health and out of home care. Participants were recruited through the Victorian Aboriginal Child Care Agency (VACCA) and other community organizations. Semi-structured interviews were conducted and thematic analysis of data was carried out using NVivo. A census of Aboriginal youth aged 12-17 in care with the main OoHC providers in Melbourne was also conducted. **Results:** Young people described mental health as involving internal and external factors. External influences included proximal, such as case workers and biological family; intermediate, including community, culture and education; and distal such as health care services and wider society. Overarching themes included the need to feel accepted and belong, for stability, for supportive relationships and to form connection with others. Census results showed that Aboriginal youth formed 19% of the overall cohort. **Conclusion:** Mental health professionals should consider asking youth about a history of OoHC and adopt a strengths-based approach as well as asking about problems. Only youth from metropolitan Melbourne were included. Emphasis should be on support networks and connection to community and culture. Aboriginal youth continue to be over-represented in OoHC. Greater involvement with Aboriginal Community Controlled Organizations is recommended.

35. Social environmental risk factors for transition to psychosis in an ultra-high risk population

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Background: Despite social environmental factors such as deprivation, urbanicity, migration and adversity being established risk factors for psychotic disorders, there is a paucity of knowledge on the influence of social environmental risk factors in the UHR population. Firstly, we aimed to investigate the association between social deprivation and risk of transition and secondly, we aimed to investigate the association between migration status and the risk of transition. **Methods:** UHR individuals at the Personal Assessment and Crisis Evaluation (PACE) service in Melbourne were included. Social deprivation as assessed according to postal code area of residence was obtained from census data and Cox regression analysis was used to calculate hazard ratios. **Results:** A total of 219 UHR individuals were included and over the median follow-up time of 4.8 years, 32 individuals (14.6%) were known to have transitioned to a psychotic disorder. 8.8% of UHR individuals were first generation migrants and 41.9% were second generation migrants. The level of social deprivation was not associated with the risk of transition ($p=0.83$). Similarly, first or second generation migrants did not have an increased risk of transition to psychosis ($p=0.84$). **Conclusions:** Despite being established risk factors for psychotic disorders, social deprivation and migrant status have not been found to increase the risk of transition in a UHR population. Interestingly, these results appear to be consistent with the literature from within Australia that migrants are not at an increased risk of psychotic disorders, in contrast to the literature from Europe and the US.

36. Reasons for participating in a high level mental health governance group: qualitative analysis of applications

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Background: Involving young people in high level governance groups, such as the Youth Brains Trust of the Young and Well Cooperative Research Centre, has been shown to impact positively on the young people who are involved and the services that they help create (Swanton, Collin, Burns and Sorensen, 2007). Given the importance of these groups to the organizations that host them it is important to critically examine the members' reasons for participating. The aim of this study is to investigate young people's reasons for participating in a high level governance group of technology-based youth mental health group. **Methods:** Young people who had previously applied to the Youth Brains Trust of the Young and Well Cooperative Research Centre and who were over 18 in either 2011, 2012 or 2013 released a copy of their previously written application to the investigator. Using a thematic analysis style a question from the applications, 'Why do you want to be involved with the Youth Brains Trust of the Young and Well CRC'? was analysed. **Results:** Analyses of the application data suggest that young people have a range of reasons for applying. Participants mentioned reasons that included: a belief that they had personal attributes or particular qualities, an interest in mental health and young people, a strong belief in Young and Well's mission and values, a desire to give back and contribute, for professional and personal development reasons, an interest in research or an interest in technology. **Conclusion:** Given the increasing prevalence of youth participation in research, an understanding of the reasons that young people choose to apply to groups such as the Youth Brains Trust may lead to the creation of ways to increase the breadth of young people in research and youth participation.

37. Moderated online social therapy for depression relapse prevention in young people: the *Latitudes* pilot study

Simon Rice[1,2,3], Mario Alvarez-Jimenez[1], John Gleeson[3], Tamsyn Gilbertson[1], Christopher Davey[1,4], Alex Parker[1,2], Sarah Bendall[1], Sarah Hetrick[1,2]

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Background: Major depressive disorder (MDD) is the leading cause of disability for Australians from late adolescence through mid-adulthood. Most sufferers of MDD develop recurrent depression, which will show a worsening pattern of severity, frequency and lack of responsiveness to initially effective treatments. Relapse of MDD generates staggering costs for the health care sector, enormous secondary economic and productivity losses and significant impairment for the individual. **Methods:** This presentation reports on the study rationale and preliminary data for the *Latitudes* pilot study for relapse prevention of MDD in young people. *Latitudes* is a comprehensive online platform that integrates the moderated online social therapy (MOST) model. *Latitudes* incorporates social networking functionality, real-time expert mental health clinician input, individualised vocational and educational support, and interactive novel online therapy pathways. The *Latitudes* pilot study will recruit up to 50 participants nearing discharge (e.g., in, or approaching, symptom remission for MDD), assessing change in key outcome variables from baseline to conclusion of intervention (e.g., 3-months post study entry). **Results:** The *Latitudes* pilot study is aimed to evaluate the feasibility, acceptability and safety of the online platform. The manualised theory driven model will be presented, and the process of daily moderation and participant safety management outlined. Preliminary demographic and usage pattern data will be discussed, alongside the integration of innovative tracking tools, including social network analysis, use of therapy content versus social networking, and total network activity. Strategies to establish and maintain ongoing intervention engagement are presented, and examples of therapeutic use of the social network highlighted. **Conclusion:** It is expected that the *Latitudes* intervention will demonstrate feasibility, acceptability and safety, and result in cost-effective extended clinical benefits. It is anticipated that the intervention will result in reductions to depressive symptoms and suicidaility, gains to social functioning, and improved engagement with community support services.

Workshop Presentations

Workshop 1 - Australian Rotary Health media training workshop for early career researchers

Rob Morrison[1], Michael Sawyer[2]

[1]*Flinders University of SA, Australia*
[2]*University of Adelaide, SA, Australia*

Australian Rotary Health will again hold a Media Training and Presentation Training Workshop. Excellent feedback has been received from similar workshops held over the last years.

The first session - Media Training - will be run by science media guru, Professor Rob Morrison and the second session will focus on Presentation Training and will be conducted by Professor Michael Sawyer of the University of Adelaide. The latter will primarily focus on approaches to presenting research to community groups (e.g., Rotary Clubs) However, our experience is that the principles apply equally well to presentations prepared for general scientific audiences. Both sessions will concentrate on translating theory into practice with lots of active participation.

Audience: Higher Research Degree Students funded by Australian Rotary Health and early career researchers.

Organisers: Joy Gillett (CEO, Australian Rotary Health), Michelle Nicholas (Research Administration Manager, Australian Rotary Health)

Enquiries: Michelle Nicholas - MichelleNicholas@australianrotaryhealth.org.au or 02 8837 1900

Workshop 2 - Psychological interventions for bipolar disorder: best practice and future directions

Greg Murray[1]

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Content: Treatment outcomes for bipolar disorder (BD) are not satisfactory, but psychological models and treatment approaches show promise for improving symptoms and quality of life. Participants will be introduced to theory, knowledge and skills concerning the assessment and psychological management of BD. Evidence-based treatments will be introduced, and application in everyday practice described. Emerging international issues will be discussed, including the role of recovery approaches, mindfulness-based therapies, the bipolar spectrum and dimensional measurement of BD, social learning processes in therapy, integrating face-to-face and online treatments, and leveraging patients' strengths (particularly creativity).

Process: The workshop will follow an interactive seminar format. Instructional videos will demonstrate the symptoms of BD, and case studies will highlight how clinician's existing skill base can be applied to the condition. Participants will be provided with a handbook of resources and background information supporting the workshop content. Links to our free, online assessment package for BD will also be provided.

Learning outcomes: Participants will deepen their understanding of the assessment and diagnosis of BD. They will become more confident in the management of clients with BD through learning an integrated treatment-leaning model of the bipolar disorders and understanding key therapeutic process issues. This strongly applied set of knowledge and skills will be situated in an empirical and theoretical context, supporting participants' critical engagement with rapidly growing scientific literature.

Level of expertise: The workshop will assume foundation knowledge/skills in assessment and diagnosis of BD. The section on assessment will build on this knowledge/skill so that participants have a sophisticated appreciation of contemporary diagnostic issues. The workshop will assume foundation knowledge/skills in psychological treatments of disorders, and the section on models and treatment will build on this knowledge/skill so that participants have a thorough understanding of evidence-based approaches to psychological treatment for this particular disorder.

Workshop 3 - Treating clinical perfectionism

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Generally in society perfectionism is thought to be a positive characteristic, involving striving to achieve high standards without experiencing negative consequences. However clinicians are aware that aspects of perfectionism can be associated with negative consequences, leading to a range of problems like anxiety, depression and eating disorders.

This workshop will focus on a model of "clinical perfectionism" which describes people who set extremely high standards for performance, are very concerned over making mistakes, and base self-evaluation on how well these standards are met.

This practical workshop will provide information on assessment and collaborative case formulation and therapeutic pitfalls to avoid with this population, as well as presenting a range of specific cognitive behavioural techniques that can be incorporated into an individualized treatment plan. This treatment is evidence-based and has been found to not only reduce perfectionism, but also reduce a range of psychopathology despite the symptoms not being targeted directly in treatment. As such, the approach outlined is appropriate for many clients seen in clinical practice who have elevated perfectionism and a range of different disorders.

This workshop is appropriate for clinicians from a range of professions, and will be useful for the beginning level clinician and those enrolled in graduate training programs, through to clinicians with many years of experience who may struggle with a lack of available guidance in the treatment literature about how to approach the numerous clients they see where perfectionism is a large part of the presenting problem.

References:

1. Shafran R, Egan SJ, & Wade TD. (2010). *Overcoming Perfectionism*. Constable Robinson.
2. Egan SJ, Wade TD, Shafran R, & Antony MM. (September 2014). Cognitive-Behavioral Treatment of Perfectionism. New York: Guilford Press.

Workshop 4 - Understanding and using language as a key resource in psychiatric practice

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The aim of this workshop is to make explicit to participants the central role of language in psychiatry, and to introduce participants to an approach to language analysis that can be adopted to reflect on and research their practice. We will demonstrate how such an analysis and interpretation facilitates understanding of how we all use language to 'get things done' in our lives and shape our understanding of both our internal and external worlds.

Patients' 'inappropriate' use of language is part of what defines them as unwell; our understanding of patients and patient needs is manifest in the language we use to describe them and communicate with colleagues about them; the success or failure of the therapeutic relationship is anchored in the language used between doctor and patient. But in the main, the place of language in all of these processes is taken for granted and not seen as important.

This workshop draws on our recent research as well as other sources to bring to the surface how language is used and, perhaps, can be better used by clinicians in their professional work in all three areas – in understanding the language of mentally unwell patients (Fine, 2008), the language of clinical communication about patients (Walsh, Jureidini, Cominos, 2013), and the language of therapeutic interactions (Meares, Butt, Henderson-Brooks, 2005).

We will draw on work from a recent project – that is the application of close language analysis to enhance trainee formulation skills - to give participants firsthand experience of working explicitly with language in the context of psychiatry. Participants will be led through the process of analysing and assessing trainee formulations as a step in developing their understanding and skill in this process.

Workshop 5 - Don't just screen intervene: practical strategies to improve physical health in people experiencing serious mental illness

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Higher rates of obesity, cardiovascular disease and diabetes contribute to a widening health gap among people experiencing psychosis. These physical health co-morbidities are now the most frequent cause of premature death for people with psychosis and are consequently more common than suicide. There is consistent evidence that lifestyle and pharmacological interventions are successful in reducing rates of morbidity and mortality in people with serious mental illness yet provision of these evidence-based interventions remains ad hoc. The core focus of this interactive workshop is to assist clinicians to identify and monitor cardiometabolic risk factors in FEP, and implement appropriate prevention and treatment strategies to overcome them.

The workshop will provide a step-by-step guide on screening for cardiometabolic health. The workshop will focus on interventions to prevent and address the occurrence of metabolic syndrome and related diseases in people experiencing mental illness. These interventions include lifestyle modification (dietary and exercise) and pharmacological initiatives incorporating mindful prescribing of neuroleptic medication and utilising pharmacological strategies such as metformin. Reference will be made to the positive cardiometabolic algorithm as a guide to when to employ metabolic interventions.

Participants will be guided through the utilisation of these interventions in a practical way, with examples of current clinical practice from the Keeping the Body in Mind Program at the Bondi Centre, Sydney. Participants will be able to discuss current physical health programs and have opportunities to discuss ways to improve physical health outcomes.

Early Career Researchers workshop: alternative paths to a successful researcher career

Natacha Carragher[1], Kate Fairweather-Schmidt[2], Emma Barkus[3].

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The longevity of any science is dependent upon young people becoming involved in research and teaching. This allows for generation of new ideas and incremental process in areas of science, like psychiatry and psychology, which contain questions which have baffled scientists for generations. Individuals in the early phases of their career, represent the peak of current scientific knowledge and training. Their enthusiasm and drive inspires younger trainees and, promotes regeneration and zeal in established researchers. However, early career researchers may confront a number of barriers to successful navigation through the early phases of their introduction to psychiatric research. Navigation through the tenuous early phases of a career can raise doubts, concerns and disenchantment which leads many to exit the profession or prefer the relatively more secure and lucrative world of clinical practice. This workshop aims to demonstrate there are multiple trajectories for early career researchers, aside from the ideal of immediate grant and fellowship success. The three speakers in this workshop represent different areas of interest within psychological and psychiatric research. The speakers are currently at different stages of their careers, alongside differing life and training experiences. The speakers will outline the difficulties encountered and present survival strategies for some of the barriers and events which can impede progress during the early phases of a career. Whilst there is acknowledgement that there is an ideal way to establish yourself in a research career, the majority of individuals do not have access to this. In an area which actively encourages comparison with your peers, we suggest that, whilst being mindful of others, the key to long term individual success is to be mindful of and celebrate your own successes and steer your own course through the rocky waters of the early phases of your career.

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