

PRINCESS ALEXANDRA HOSPITAL

Transforming Discoveries to Better Health



2015 PAH Health Symposium
4 - 7 August • Brisbane, Australia

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PAH General Surgeons Group

Welcome



“Transforming Discoveries to Better Health”

On behalf of the Organising Committee, I welcome you to the 2015 Princess Alexandra Hospital (PAH) Health Symposium: **Transforming Discoveries to Better Health**.

The PAH has a rich history of health care spanning over 100 years. Developments over recent years have brought the PAH campus to the forefront of shaping the future of health in Queensland, nationally and internationally.

The PAH is one of four major hospitals of Brisbane Diamantina Health Partners (BDHP). Established in 2014 as an Advanced Health Science System, BDHP is a partnership of health services (Metro South and Metro North), universities (The University of Queensland and Queensland University of Technology) and research institutes (TRI and Queensland Institute of Medical Research) the mission of which is to improve health care through partnerships by integrating teaching, research and clinical services.

In 2012, the Translational Research Institute (TRI) opened, bringing a unique, Australian-first ‘bench to bedside’ research institution aimed at transforming discoveries to better health care.

Central to the week’s program is Professor Carolyn Mountford, the Symposium’s International Fellow and Kurt Aaron Orator. Professor Mountford is the new CEO and Director of Research of the TRI, taking over this year from Professor Ian Frazer. As a world leader in magnetic resonance and spectroscopy technology, she brings a new dimension to health care using cutting edge technology to advance the understanding of disease causation and accelerate early diagnosis of disease in all body systems.

The Symposium’s program is built on the PAH’s flagship themes of Cancer, Chronic Disease, Trauma, Immunology and Inflammation, Mental Health, and Health Systems Innovation, and is augmented by sessions on:

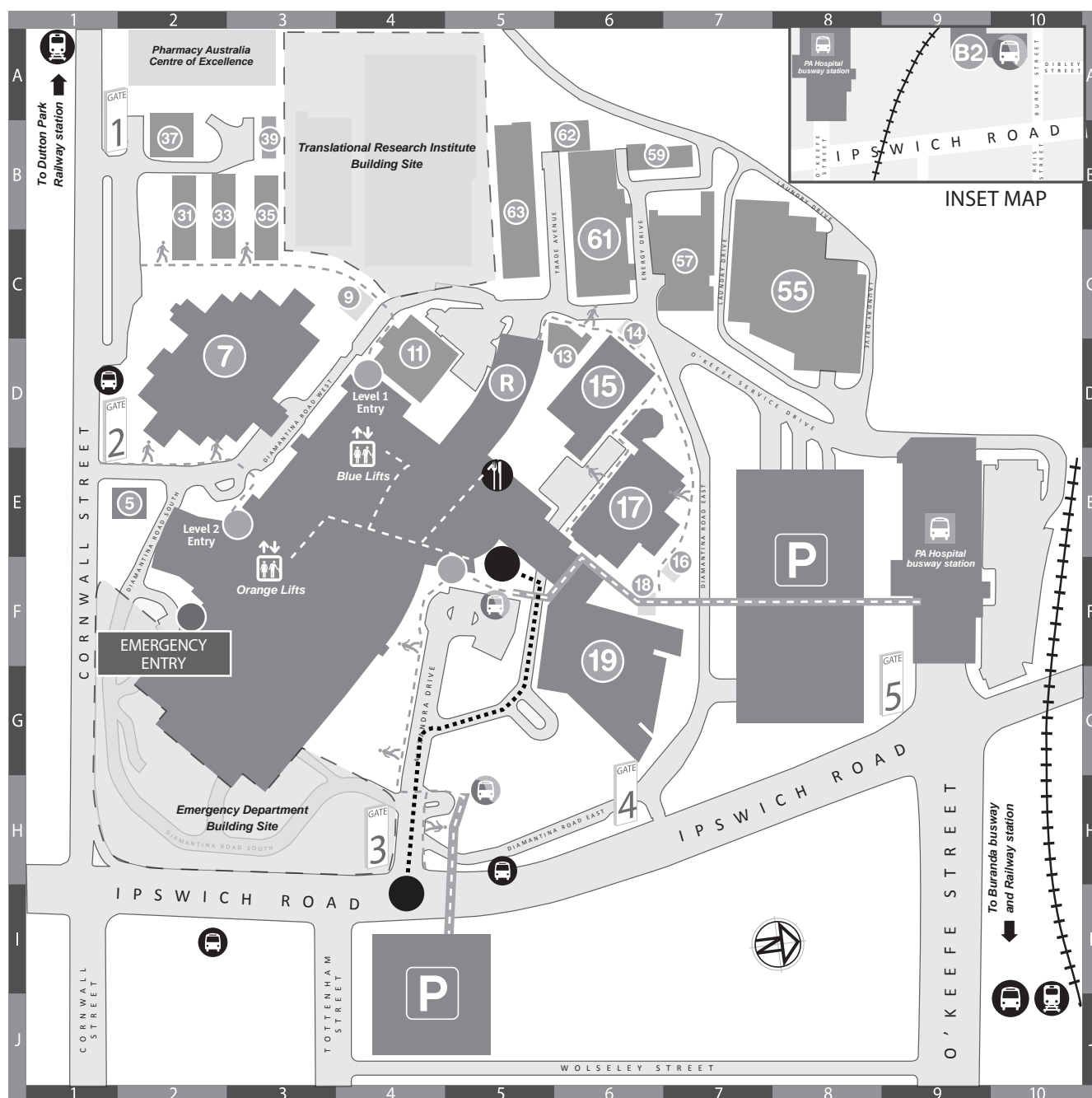
- The Digital Hospital
- Debate: Technology – a hindrance to patient care
- Translating Research into Clinical Practice.

The week also features educational forums, Young Investigator Awards and poster communications.

Please come along to engage and enjoy a stimulating week of educational, research and clinical activities, reflective of the partnerships within the PAH community.

Professor Ken Ho
Convenor

Princess Alexandra Hospital Venue Map Layout



- | | | |
|---|---|--|
| ● main hospital entries D4, E3, F5 | 15 executive building D6 | 55 metropolitan linen services (mls) C8 |
| ● emergency entry F2 | 17 spinal injuries unit (siu) E6 | 57 central energy unit (ceu) C7 |
| i information desk E4 | 19 mental health services F6 | 61 general support services C6 |
| 公共厕所 E5, E5, F3 | R research wing D5 | 63 maintenance services B5 |
| 公共咖啡馆 E5 | 31 ambulatory and renal transplant services (arts) B2 | B2 burke street centre SEE INSET MAP |
| 5 diamantina health care museum E2 | 33 building 33 B3 | P parking |
| 7 geriatric and rehabilitation unit (garu) D3 | 35 building 35 B3 | ● train station |
| 13 aquatic physiotherapy pool D6 | 37 specialised health services (shs) B2 | ● bus stop |
| | | ● PA shuttle bus stops H4, F4, INSET A10 |

Information for Delegates and Presenters

Venues

Princess Alexandra Hospital
199 Ipswich Road
Woolloongabba
Queensland, Australia, 4102
Ph: 61 (0)7 3176 2111

The Translational Research Institute
199 Ipswich Road
Woolloongabba
Queensland, Australia, 4102
Ph: 61 (0)7 3443 7000

Venue Layout

The PAH Health Symposium is held in the Russell Strong Auditorium and the breaks take place in the Russell Strong Auditorium Foyer. The Young Investigator Awards session on Wednesday will be held in the TRI Auditorium followed by the Poster Expo and function in the TRI Auditorium Foyer. Please see venue map for locations.

Poster Expo

All posters must be on display in the TRI Auditorium Foyer by lunchtime on Wednesday and must be removed at the end of the Poster Expo on Wednesday night. The display boards will be set up from approximately 3:00pm on Tuesday afternoon with access to the room until 7:00pm on Tuesday night and from 6:00am on Wednesday morning.

Delegates can find the correct position for their poster by locating the presenters surname on the display boards. The posters will be displayed in alphabetical order according to presenter's surnames. Numbers will also be located on the display boards correlating to the abstract numbers in this book.

During the Poster Expo, you will need to attend your poster to answer questions and meet colleagues with similar research interests. Refreshments will be served at this event.

The judges will select a number of finalist posters to be on display at the PAH Auditorium Foyer from Thursday. These finalist posters must be removed at lunchtime on Friday. Any remaining posters will need to be collected from the Multi Media Unit (on Level 2, Building 15, PAH) from the following week.

The winners will be announced at the PAH Health Symposium Awards Ceremony on Friday.

Insurance

The hosts and organisers are not responsible for personal accidents, any travel costs, or the loss of private property and will not be liable for any claims. Delegates requiring insurance should make their own arrangements.

Smoking

Under Queensland law, smoking is illegal at all hospitals and health facilities, including five metres beyond their boundaries. On-the-spot fines apply for patients, visitors and staff who breach tobacco laws at Princess Alexandra Hospital.

Mobile Phones

Please ensure mobile phones are turned off during any session you attend.

Disclaimer

The hosts, organisers and participating societies are not responsible for, or represented by, the opinions expressed by participants in either the sessions or written abstracts.

7:15 AM - 8:30 AM	Trauma Grand Rounds <i>Today's standards of the management on spinal cord injuries</i> Chair: Professor Michael Schuetz Professor Michael Fehling - University of Toronto	Russell Strong Auditorium
11:00 AM - 11:15 AM	Welcome and Official Opening <i>Welcome</i> Dr Stephen Ayre - Executive Director, PAH-QEII Health Network <i>Official Opening</i> Hon Cameron Dick MP - Minister for Health and Ambulance Services and Member for Woodridge	Russell Strong Auditorium
11:15 AM - 12:15 PM	Plenary <i>Brisbane has the players—now to make the team!</i> Chair: Professor Ken Ho Professor Carolyn Mountford - CEO and Director of Research, TRI	Russell Strong Auditorium
12:15 PM - 12:30 PM	Lunch Break	Russell Strong Auditorium Foyer
12:30 PM - 1:15 PM	Lunchtime Session <i>Ethics and Governance for Dummies</i> Chair: Professor Maher Gandhi	Russell Strong Auditorium
12:30 PM - 12:35 PM	Professor Maher Gandhi - Former HREC Chair, CHR, MSH Introduce Panel	
12:35 PM - 12:45 PM	A/Professor Richard Roylance - HREC Chair, CHR, MSH Why HREC Review	
12:45 PM - 12:50 PM	Professor Maher Gandhi - Former HREC Chair, CHR, MSH Introduce a Scenario	
12:50 PM - 1:00 PM	Ms Rebecca Lacey - HREC Coordinator, CHR, MSH Ethical Considerations	
1:00 PM - 1:05 PM	Ms Sonia Hancock - Research Governance Manager, CHR, MSH Governance Considerations	
1:05 PM - 1:15 PM	All Q&A	

1:15 PM - 2:45 PM	PA Research Support Scheme Award Winners <i>The seeds we have sown</i> Co-chairs: Mr Robert Bowen & Dr Stephen Ayre	Russell Strong Auditorium
1:15 PM - 1:30 PM	Professor Michael Stowasser - <i>Director, Endocrine Hypertension Research Centre, PAH</i> Improving the detection and diagnosis of primary aldosteronism <ul style="list-style-type: none"> • PPTF funded; 2014 Near-Miss NHMRC Grant 	
1:30 PM - 1:45 PM	Professor Bala Venkatesh - <i>Staff Specialist, Intensive Care Unit, PAH</i> Assessment of the burden and consequences of interruptions in health care to workflow and patient outcomes <ul style="list-style-type: none"> • PPTF funded; 2013 Project Grant 	
1:45 PM - 2:00 PM	A/Professor Warrick Inder - <i>Senior Staff Specialist, Diabetes & Endocrinology, PAH</i> A journey up and down the hypothalamic-pituitary-adrenal axis <ul style="list-style-type: none"> • PARF funded; 2012 New Appointment Grant 	
2:00 PM - 2:15 PM	Dr Emma Finch - <i>Research Fellow, Speech Pathology, PAH</i> A phase II trial of a novel intervention for social language use impairments following traumatic brain injury <ul style="list-style-type: none"> • PPTF funded; 2013 Small Grant 	
2:15 PM - 2:30 PM	A/Professor Graeme Macdonald - <i>Senior Staff Specialist, Gastroenterology & Hepatology, PAH</i> The role of gut bacterial and mucosal permeability in liver injury <ul style="list-style-type: none"> • PARF funded; 2012 Small Grant 	
2:30 PM - 2:45 PM	Professor Ken O'Byrne - <i>Consultant Medical Oncologist, Cancer Services, PAH</i> The SASH1 tumour suppressor as a breast cancer biomarker and treatment outcome predictor <ul style="list-style-type: none"> • PARF funded; 2014 ALH Breast Cancer Grant 	
2:45 PM - 3:00 PM	Afternoon Tea	Russell Strong Auditorium Foyer
3:00 PM - 4:30 PM	Immunology and Inflammation <i>Harnessing the immune system in the treatment of cancer</i> Co-chairs: A/Professor Graeme Macdonald & Dr Graham Leggatt	Russell Strong Auditorium
3:00 PM - 3:20 PM	Dr Victoria Atkinson - <i>Staff Specialist, Cancer Services, PAH</i> Checkpoint inhibitors in melanoma	
3:20 PM - 3:40 PM	A/Professor Ben Panizza - <i>Director, ENT, PAH</i> Dr Graham Leggatt - <i>Senior Research Fellow, UQDI</i> The immune response to perineural spread of squamous cell carcinoma	
3:40 PM - 4:00 PM	A/Professor Kristen Radford - <i>Senior Research Fellow, MMRI</i> DC-based therapies for cancer	
4:00 PM - 4:20 PM	Professor Ian Frazer - <i>UQDI</i> HPV Immunotherapy	
4:20 PM - 4:30 PM	All General discussion	

9:00 AM - 10:30 AM	Trauma <i>The state of play in spinal cord injury care in Queensland</i> Co-chairs: Dr Marc Ruitenberg & Dr Sridhar Atresh	Russell Strong Auditorium
9:00 AM - 9:10 AM	Professor Michael Schuetz - Director, Trauma Services, PAH Dr Marc Ruitenberg - Senior Lecturer, School of Biomedical Science, UQ Dr Sridhar Atresh - Clinical Director, QLD Spinal Cord Injuries Service, PAH Introduction	
9:10 AM - 9:20 AM	A/Professor Richard Williams - VMO, Orthopaedics, PAH Spinal cord injury: Cost, acute management, challenges and obstacles	
9:20 AM - 9:35 AM	Ms Christiana Cheng - Research Associate, Rick Hansen Institute, Vancouver Ms Laura Worley - Occupational Therapist, PAH Spinal cord injury in Queensland: Demographics and access to care	
9:35 AM - 9:50 AM	Ms Esther Jacobson - Research Coordinator, QLD Spinal Cord Injuries Service, PAH A placebo-controlled randomized trial using minocycline in spinal cord injury: The PAH experience	
9:50 AM - 10:05 AM	Dr Michael Wagels - Staff Specialist, Plastics and Reconstructive Surgery, PAH Nerve transfer to improve arm function after spinal cord injury	
10:05 AM - 10:20 AM	Mr David Riley - Spinal Injuries Australia Living with spinal cord injury	
10:20 AM - 10:30 AM	All Q&A	
10:30 AM - 10:45 AM	Morning Tea	Russell Strong Auditorium Foyer
10:45 AM - 11:55 AM	Health System Innovation <i>The digital hospital</i> Chair: Dr Clair Sullivan	Russell Strong Auditorium
10:45 AM - 11:00 AM	Dr Michael Lawley - Principal Research Scientist, Australian e-Health Research Centre, CSIRO Understanding our digital hospital	
11:00 AM - 11:15 AM	Dr Justin Boyle - Principal Research Scientist, Health & Biosecurity Flagship, Australian e-Health Research Centre, CSIRO Using hospital data to improve patient flow	
11:15 AM - 11:25 AM	Dr Clair Sullivan - Deputy Director, Division of Medicine, PAH Q&A: How we will use the digital hospital to improve the care of patients	
11:25 AM - 11:55 AM	Panel Discussion with Ms Veronica Casey, Mr Sean Birgan, Dr Andrew Staib, Dr Richard Ashby, Mr Michael Draheim and Dr David Hansen How we will look after patients in the digital hospital: The future of healthcare at PAH	
11:55 AM - 12:10 PM	Lunch Break	Russell Strong Auditorium Foyer

12:10 PM - 1:00 PM	Lunchtime Session <i>Department Research Showcase</i> Co-chairs: Professor Ken Ho & Dr Peter Malycha	Russell Strong Auditorium
12:10 PM - 12:20 PM	Dr Andrew Moore - Group Leader, UQDI UQDI	
12:20 PM - 12:30 PM	Dr Steven McPhail - Research Fellow, Allied Health, PAH Allied Health, PAH	
12:30 PM - 12:40 PM	Dr Ian Vela - Staff Specialist, Surgery, PAH Surgery, PAH	
12:40 PM - 12:50 PM	Dr Rachel Walker - Research Fellow, Nursing, PAH Nursing, PAH	
12:50 PM - 1:00 PM	Professor Gerald Holtmann - Director, Gastroenterology, PAH Medicine, PAH	
1:00 PM - 2:30 PM	Cancer Services <i>New developments in oncology and haematology</i> Co-chairs: Professor Ken O'Byrne & A/Professor Sandro Porceddu	Russell Strong Auditorium
1:00 PM - 1:15 PM	Dr Katharine Cuff - Medical Oncologist, Cancer Services, PAH Breast Cancer: Update on recent advances and ongoing research at the PAH	
1:15 PM - 1:30 PM	Dr Margaret McGrath - Medical Oncologist, Cancer Services, PAH Head and Neck Cancer: HPV in head and neck cancer	
1:30 PM - 2:00 PM	Dr Ken Miles - VMO, Radiology, PAH Dr David Pryor - Radiation Oncologist, Cancer Services, PAH Prostate Cancer: The emerging role of Prostate Specific Membrane Antigen PET imaging in guiding therapy	
2:00 PM - 2:15 PM	A/Professor Matthew Foote - Radiation Oncologist, Cancer Services, PAH Radiation Oncology: Gamma Knife® radiotherapy - applications in clinical practice	
2:15 PM - 2:30 PM	A/Professor Peter Mollee - Haematologist, Cancer Services, PAH Understanding Amyloidosis	
2:30 PM - 2:45 PM	Afternoon Tea	Russell Strong Auditorium Foyer
2:45 PM - 5:00 PM	Young Investigator Awards Co-chairs: Professor Andrew Perkins, Dr Helen Benham, A/Professor Tarl Prow & Dr Roberta Mazzieri Guest Adjudicators: Professor Ken Ho, Professor John Prins, Professor Adrian Herington, Professor Carolyn Mountford & A/Professor Kiarash Khosrotehrani	TRI Auditorium
2:45 PM - 3:45 PM	Student Finalists	
3:45 PM - 4:00 PM	Break	
4:00 PM - 5:00 PM	Junior Researcher Finalists	
5:00 PM - 7:00 PM	Poster Expo Poster Judges: Professor Andrew Perkins, Dr Helen Benham, Professor Peter Soyer, A/Professor Tarl Prow, Dr Roberta Mazzieri & Dr Mehlika Hazar Rethinam	TRI Auditorium Foyer

8:00 AM - 10:30 AM	Covidien Surgical Prize	1.4L.3A - Bryan Emmerson Room
9:00 AM - 10:30 AM	New Technologies Co-chairs: Professor Andrew Perkins & Professor Peter Soyer	Russell Strong Auditorium
9:00 AM - 9:20 AM	Professor Hamish Scott - <i>Head of the Department of Molecular Pathology, SA Pathology</i> The rise of the machines - Technology and computers in modern genetics: Clinical next generation sequencing in familial disorders and cancer	
9:20 AM - 9:40 AM	A/Professor Tarl Prow - <i>Deputy Director, Dermatology Research Centre, UQSOM</i> Confocal laser guided in vivo microbiopsies of melanocytic proliferations: Skin Cancer	
9:40 AM - 10:00 AM	A/Professor Chris Perry - <i>Chair, Head and Neck Clinic, PAH</i> Robotic endoscopic surgery: ENT surgery and robotics	
10:00 AM - 10:20 AM	Professor Ken Ho - <i>Chair, Centres for Health Research, MSH</i> New trick for an old hormone - harnessing the anabolic but not androgenic effects of testosterone	
10:20 AM - 10:30 AM	All General discussion	
10:30 AM - 10:45 AM	Morning Tea	Russell Strong Auditorium Foyer
10:45 AM - 12:15 PM	Addiction and Mental Health Services <i>Discovering the consumer: our journey together</i> Co-chairs: Professor David Crompton & Ms Angela Bryant	Russell Strong Auditorium
10:45 AM - 11:00 AM	Ms Kimina Andersen - <i>Program Manager, MSAMHS</i> Way Forward - an Indigenous approach to wellbeing	
11:00 AM - 11:15 AM	Ms Rachel Weber - <i>Wellbeing Program Manager, MSAMHS</i> Logan-Beautesert Wellbeing Program	
11:15 AM - 11:30 AM	Dr Stephen Parker - <i>Staff Specialist, Community Care Units, MSAMHS</i> A novel model of care at the Community Care Units	
11:30 AM - 11:45 AM	Ms Karen McCann - <i>Peer Recovery Support Worker Supervisor, MSAMHS</i> Breaking new ground in peer work: The trilogy of recovery	
11:45 AM - 12:00 PM	Ms Gabrielle Vilic - <i>Director, Social Inclusion and Recovery, MSAMHS</i> Social Inclusion and Recovery portfolio	
12:00 PM - 12:15 PM	Ms Josie Dietrich - <i>Researcher, MSAMHS</i> MAP to better care: Implementing knowledge-for-action transfer in two Adult Acute Psychiatric Units	
12:15 PM - 12:30 PM	Lunch Break	Russell Strong Auditorium Foyer

12:30 PM - 1:15 PM	Lunchtime Debate <i>Technology: a hindrance to patient care</i> Moderator: Ms Bernadette Thomson AFFIRMATIVE TEAM: Professor Stephen Lynch - Chairman, Division of Surgery, PAH Dr Sarah Winch - Health Care Ethicist, UQSoM Mr James Grant - Clinical Lead (Pharmacist), Digital Hospital Program, PAH NEGATIVE TEAM: Dr Tom Campbell - House Officer, Ophthalmology, PAH Ms Madonna King - Award-winning journalist, commentator and author Ms Renea Collins - Nursing Director, eHealth Clinical Informatics, PAH	Russell Strong Auditorium
1:15 PM - 2:45 PM	Education <i>Interprofessional learning and practice</i> Chair: Professor Amanda Henderson	Russell Strong Auditorium
1:15 PM - 2:15 PM	Professor Gary D. Rogers - Deputy Head, School of Medicine, Griffith University Innovative approaches to interprofessional education in health	
2:15 PM - 2:25 PM	Mr Scott Tyler - Clinical Facilitator, Nursing Practice Development Unit, PAH Mr Karl Winkel - UQ Pharmacy Pharmacy and nurses learning in practice	
2:25 PM - 2:35 PM	Ms Bernadette Thomson - Nursing Director, Nursing Practice Development Unit, PAH Ms Sarah Bailey - Allied Health Workforce Development Officer, CSS, PAH Ms Fleur Langan - Medical Education Officer, Medical Education Unit, PAH Leadership and interprofessional collaboration at PAH	
2:35 PM - 2:45 PM	Open discussion How do we lead the National Agenda at PAH	
2:45 PM - 3:00 PM	Afternoon Tea	Russell Strong Auditorium Foyer
3:00 PM - 4:30 PM	Chronic Disease <i>Improving the care of frail older people</i> Chair: A/Professor Ruth E. Hubbard	Russell Strong Auditorium
3:00 PM - 3:05 PM	A/Professor Ruth E. Hubbard - Geriatric Medicine, PAH Introduction	
3:05 PM - 3:25 PM	Dr Steven McPhail - Senior Research Fellow, CFHR, PAH Preventing falls in hospital: Good news from a large-scale effectiveness randomised trial	
3:25 PM - 3:45 PM	A/Professor Peter Pillans - Director, Clinical Pharmacology, PAH Optimal prescribing in older people	
3:45 PM - 4:05 PM	Dr Ellen Burkett - Staff Specialist, Emergency, PAH The interface between acute care and Residential Aged Care Facilities: The CARE-PACT project	
4:05 PM - 4:25 PM	Mr Frederick Graham - CNC Dementia & Delirium, Division of Medicine, PAH Improving the management of inpatients with delirium and dementia	
4:25 PM - 4:30 PM	All Open discussion	

9:00 AM - 10:30 AM	The Next Frontier <i>Implementation science: transforming health systems</i> Chair: Ms Areti Gavrilidis	Russell Strong Auditorium
9:00 AM - 9:40 AM	Professor Alison Kitson - Head of School, Royal Adelaide Hospital School of Nursing Developing capacity and speeding up the spread of evidence-based innovations in health care	
9:40 AM - 9:55 AM	A/Professor Ian Scott - Director, General Medicine, PAH Strategies for maximising use of effective health services and minimising waste	
9:55 AM - 10:10 AM	Dr Alison Mudge - Clinical Director, Research & Education Internal Medicine & Aged Care, RBWH Eat Walk Engage: Translating evidence into improved care for older inpatients	
10:10 AM - 10:25 AM	Dr Clair Sullivan - Deputy Chair, Division of Medicine, PAH Dr Andrew Staib - Deputy Director, Emergency, PAH Looking beyond the patient in front of you: Translating health systems research into better patient outcomes	
10:25 AM - 10:30 AM	All Q&A	
10:30 AM - 10:45 AM	Morning Tea	Russell Strong Auditorium Foyer
10:45 AM - 12:10 PM	Awards Ceremony and Kurt Aaron Oration Chair: Professor Ken Ho	Russell Strong Auditorium
10:45 AM - 11:15 AM	<i>Awards Ceremony</i> Dr Richard Ashby - Chief Executive, Metro South Health	
11:15 AM - 12:10 PM	<i>Kurt Aaron Oration:</i> <i>When business meets medicine and science</i> Professor Carolyn Mountford - CEO and Director of Research, TRI	
12:10 PM - 12:15 PM	Closing Address Professor Ken Ho - Chair, Centres for Health Research, MSH	Russell Strong Auditorium
12:15 PM - 1:15 PM	Lunch Break	Russell Strong Auditorium Foyer

Committee Members 2015

Organising Committee

Professor Ken Ho - *Chairman*
Ms Veronica Casey
Dr David Evans
Ms Lucy Hine
Professor Gerald Holtmann
Dr Sue Jeavons
Ms Lynette Loy
Professor Stephen Lynch
Dr Roberta Mazzieri
Professor Michael Schuetz
Professor Peter Soyer
Ms Kay Toshach

Program Committee

Professor Ken Ho - *Chairman*
Dr Helen Benham
Ms Angela Bryant
Ms Sue Cumming
Professor Amanda Henderson
Dr Ruth Hubbard
Dr Graham Leggatt
Dr Graeme Macdonald
Dr Roberta Mazzieri
Professor Ken O'Byrne
Professor Andrew Perkins
Associate Professor Tarl Prow
Professor Michael Schuetz
Dr Clair Sullivan
Ms Bernadette Thomson

Event Coordinator

Ms Tess Playford

Kurt Aaron Oration



Kurt Aaron

OBE (1976) MD Frankfurt (1935) LRCP LRCS Edin (1937) LRFP&S Glasgow (1937) MRCP Edin (1951) MRACP (1961) FRCP Edin (1971) FRACP (1971)

Born - 27 February 1909

Died - 23 August 1986

Dr Kurt Aaron was born in Hamburg in 1909 and died in Brisbane in 1986. After receiving his secondary schooling at the Helmholtz Ober-Real Schule in Frankfurt, he attended universities in Munich and Cologne and graduated MD University of Frankfurt in 1935, completing his clinical undergraduate studies at the Stadtischen Krankenhaus in Frankfurt.

With his widowed mother, Kurt left Hitler's Germany in 1936, studied in Glasgow to qualify LRFP&S (Glasgow) and LRCP LRCS (Edin) in January, 1937. He then came to Australia and undertook his internship at the Brisbane General (now the Royal Brisbane) Hospital. In 1939, Kurt married Miss Sheila Cato, a nursing sister, and in time they raised five good looking children, three girls and two boys.

On completion of his senior residency in 1941 (and after the threat of being conscripted into the Civil Construction Corps in Central Australia) Kurt was directed under government wartime manpower control to a recently vacated medical practice in East Brisbane, and eventually established from that one man practice, the South Brisbane Clinic, a group practice of general practitioners and specialists. He was also appointed Assistant Visiting Physician to the BGH at that time. At the age of 42, Kurt went to Edinburgh where he gained his membership of their RCP. Ten years later, in 1961, he obtained the MRACP by examination and in 1971 was elected to Fellowship of the RACP and of the RCP (Edin).

In 1956, by now a Senior Visiting Physician to the RBH, Kurt Aaron was appointed as one of the original senior visiting physicians to Princess Alexandra Hospital, newly established as a teaching hospital at South Brisbane. It was there that he displayed his considerable skills in patient care, student teaching, residency training and hospital affairs. He wrote papers on matters scientific; other publications reflected his sensitivity to the importance of emotional factors in the causation of symptoms. He had a particular interest in renal disease, held membership of the Australasian College of Nephrology, and in 1968 was instrumental in obtaining a Kiil dialyser for PAH, as a donation from the Rotarians.

Kurt was considerably involved in workers compensation matters, being the Inaugural Chairman of the General Medical Board of the Workers Compensation Board of Queensland from 1967 to 1979. After his retirement as Visiting Physician in 1968, he continued to actively participate in hospital affairs, serving on the South Brisbane Hospitals Board from 1974 to 1979, assuming Chairmanship of the Princess Alexandra Hospital Society (the Hospital's social and educational Society) in 1973 and continuing as a committee member from 1974-1985, receiving life membership in 1978. In acknowledgement of his unique contribution to the PAH his friends had his portrait painted and hung in the medical staff common room on the 18th July, 1985 - only the second person to be so honoured at that time.

Outside of medical activities, Kurt was very involved in Rotary from 1957, being President in 1963 and 1964. Living in a spacious Queenslander with typical wide verandas, Kurt and his wife, Sheila entertained generously using their home for fund raising and other community social activities. In 1976 his work both in medicine and in citizenship was recognised with the award of an O.B.E.

Some years before his own death, Kurt was saddened by the loss of his wife. He continued in medical practice until the day before his death. His eulogy was delivered by his long-time colleague, Dr Keith Cockburn, to whom I am indebted for much of the information relating to Kurt Aaron's early years in this country. Keith Cockburn concluded with these words "He was a great citizen, a great father, a great physician and a great friend".



Professor Carolyn Mountford

Chief Executive Officer and Director of Research, TRI

Professor Carolyn Mountford is a co-inventor of the diagnostic protocol to monitor women at high risk for breast cancer identifying metabolic deregulations in their breast tissue that precede tumour growth. These pre-invasive stages are not apparent by current imaging modalities. The same technology is shown to identify changes to the brain associated with learning, memory, Post Traumatic Stress Disorder (PTSD) and injury from blast and impact. Her team are under contract to the USA and Australian military to develop this approach to improve the health of soldiers.

Prior to her appointment at TRI in February 2015, Professor Mountford held appointments at Harvard Medical School where she was Professor of Radiology and Director of the Centre for Clinical Spectroscopy at the Brigham and Women's Hospital; and recently at the University of Newcastle where she was the Professor of Radiology and Director of the Centre for MR in Health.

Professor Mountford brings to TRI a long and established interaction with the diagnostic imaging industry. Her team has been a worldwide development site for Siemens since 1999. She has led multidisciplinary programs interfacing these teams with industry; translating the technology; and making it available worldwide. This approach led to the award of an NHMRC grant for a Clinical Centre of Excellence.

Professor Mountford has received numerous national and international awards while developing the new diagnostic technology over several decades. This required determination and commitment, facing a community that did not see the long-term potential of the research. Supporting the desire to see that Australia receive significant long-term economic benefits from the magnetic resonance technology, she was awarded The Graham Coupland Medal from the Royal Australasian College of Surgeons; the Inaugural Pioneer of Hope Award from the NSW Cancer Council; and a Partner in Excellence Award from the Brigham and Women's Hospital at Harvard Medical School.

Past Kurt Aaron Orators

1997	The Most Reverend Peter Hollingworth AO
1998	Dr Owen Harris
1999	Dr Neville Davis
2000	Prof David Theile
2001	Dr Sam Mellick
2002	Prof Russell Strong
2003	The Honourable Justice Paul de Jersey
2004	Dr (Colonel) John Taske
2005	Prof John Pearn
2006	Prof Ian Frazer
2007	Prof Richard Larkins
2008	Prof Michael Lucey
2009	Colonel Georgeina Whelan
2010	Prof Matt Sanders
2011	Prof John Wass
2012	Prof Paul Stewart
2013	Professor Stephen Durham
2014	Professor Boris Bastian

Past Young Investigator Award and Poster Expo Winners

2010	YIA Research Presentation: Clinician	Dr Eduardo Pimenta
	YIA Research Higher Degree	Kelly Brooks
	YIA Poster Expo: Clinical	Dr Lillian Wong
	YIA Poster Expo: Basic Science	Dr Michael Wagels
	YIA People's Choice	Cassandra Budden / Michaela Antonia
2011	YIA Junior Researcher: Clinical	Paul Lee
	YIA Junior Researcher: Basic Science	Dr Tony Kenna
	YIA Student: Clinical	Graeme Rich
	YIA Student: Basic Science	Kelly Brooks
	Poster Expo: Clinical	Dr Rathika Krishnasamy
	Poster Expo: Basic Science	Julie Burel
	Poster Expo: People's Choice	Dr Amelia Granger
2012	YIA Junior Researcher: Clinical	Dr Lachlan Marshall
	YIA Junior Researcher: Basic Science	Dr Linda Rehaume
	YIA Student: Clinical	Dr Christine Jellis
	YIA Student: Basic Science	April Choi
	Poster Expo: Clinical	Dr Ingrid Hickman
	Poster Expo: Basic Science	Dr Helen Benham
	Poster Expo: People's Choice	Dr Peter Hendy
2013	YIA Junior Researcher: Clinical	Emma Taylor
	YIA Junior Researcher: Basic Science	Linda Gallo
	YIA Student: Clinical	Emma McMahon
	YIA Student: Basic Science	Steven Taylor
	Poster Expo: Clinical	Veronique Chachay
	Poster Expo: Basic Science	Jana McKaskill
	Poster Expo: People's Choice	Nathan Close
2014	YIA Junior Researcher: Clinical	Colm Keane
	YIA Junior Researcher: Basic Science	Danielle Jane Borg
	YIA Student: Clinical	Michael Tallack
	YIA Student: Basic Science	Soi Cheng Law
	Poster Expo: Clinical	Ryan Chai
	Poster Expo: Basic Science	Pelin Tufekci
	Poster Expo: People's Choice	Arutha Kulasinghe

The Covidien Prize for General Surgical Trainee Research

The Covidien Prize Competition for general surgical trainee research commenced during PAH Week in 2006, the Golden Jubilee of Princess Alexandra Hospital, under the auspices of the PAH General Surgeons Group. It was certainly a success that year and has been held every year since, always during PAH Week, with up to 10 registrars presenting their projects each year.

The purpose of this competition is to stimulate innovative thinking and skilful presentation of research, both laboratory and clinical surgical research, in our general surgery trainees, and to give them a local forum to present their studies. The emphasis is towards junior trainees who may not have previously done any research or made presentations of their work. The format is a 10 minute PowerPoint presentation followed by up to 5 minutes of questioning by an erudite judging panel composed of PAH surgeons. This panel then selects winners for each of the two prizes at the end of the session.

Rather than reading an abstract, each submitted paper is audited by the impartial chairman individually in the preceding weeks, and is either rejected, or accepted for the competition with some expert advice on timing, structure and style. A single pre-competition audit is offered to all candidates. This process enhances the overall quality of the session without favouring any participant.

In former years before the company name change in 2010, this competition was sponsored generously by Tyco Healthcare. Their title has now become Covidien Healthcare and the very generous sponsorship continues, with an annual prize of \$1500 to the trainee presenting the best paper overall. In addition, Professor Daryl Wall left a sum of money (now administered by the PA Foundation) which finances a second prize of \$1000 each year for the trainee presenting the best clinical paper. It is therefore possible for a single trainee to win both prizes. The winners' names are engraved year by year on a plaque which hangs in the Doctor's Lounge at PAH.

Past Covidien General Surgeons Surgical Trainee Research Winners

2008	Dr Ben Lancashire "How do the results of fundoplication compare between consultants and trainees at PAH?"
2009	Dr Jodi Hurst "Five year survivors following oesophagectomy, and predictors of survival"
2010	Dr Adam Frankel "Morbidity of regional lymph node surgery in cutaneous melanoma"
2011	Dr Adam Frankel "Oesophageal adenocarcinoma – towards biomarkers of prognosis"
2012	Dr Adam Frankel - Best Paper Overall "Intra-tumour genomic heterogeneity in oesophageal adenocarcinoma" Dr Kenneth Loon - Best Clinical Paper "Quality of life outcomes from sacral nerve stimulation in the treatment of faecal incontinence"
2013	Anitha Karunairajah -1 st Prize - The Covidien Health Care Surgical Trainee Research Prize "The Management of CMV Infection in Liver Transplant Patients at PAH" Adrienne Wilson -2 nd Prize - The General Surgeons Group Surgical Trainee Research Prize "Emergency Management of Small Bowel Tumours – A Review of Cases at PAH"
2014	Dr Nick Butler -1 st Prize - The Covidien Health Care Surgical Trainee Research Prize "Nitrogen dosing in nutrition for the critically ill: An equipoise fed by systematic review" Dr Dale Wood -2 nd Prize - The General Surgeons Group Surgical Trainee Research Prize "Surgical consent. Are surgical residents meeting the required standard?"

Award for Excellence in Resident Education

This prestigious long-standing Award has been presented to exemplary teachers who have supported junior medical staff at this hospital for a period of 15 years. At the Princess Alexandra Hospital, resident education is recognised as a priority issue and this award not only highlights its importance but also promotes enthusiasm and excellence in clinical teaching in general. With the increase of numbers of medical students graduating from Qld and interstate universities, commitment to resident teaching is paramount in producing quality doctors.

In addition to many nominees each year and the winners below, there has been one senior doctor as a result of him being consistently nominated year after year who has been inducted into the Award for Excellence in Resident Education Hall of Fame. His name is Dr Brian Miller. He has truly been honoured to be recognised in this way.

Past Award for Excellence in Resident Education Recipients

1994	Dr Winifred Lee
1995	Dr Luis Prado
1996	Dr Michael Sinnott
1997	Dr Daryl Wall, Dr Geoff Playford and Dr Gerald Feeney
1998	Dr Brian Miller
1999-2002	<i>No awards presented</i>
2003	Dr Sean Tolhurst
2004	Dr Michaela Cartner
2005	Dr Toby Tang
2006	Dr Shaun Pandy and Dr Michelle Murphy
2007	Dr Jonathon Isoardi
2008	Dr Merryn Thomae
2009	Emergency Department - Dr Andrew Churchman and Jonathon Isoardi
2010	Dr Kim Nicholls
2011	Dr Brian Miller
2012	Dr Kim Nicholls
2013	Dr Mark Deuble
2014	Dr Georgia Livesay

Award for Excellence in Nursing Education

The PA Hospital Award for Excellence in Nursing Education was first offered in 2009 in line with the Medical and Allied Health Award for Excellence in Education. This award was developed to recognise a nurse who has made a significant contribution to Nursing Education through his/her educational contribution to patients, colleagues or students. In addition it recognises a nurse who is an outstanding role model and has had a positive influence on his/her team. This award is seen as a prestigious award to recognise a nurse with excellence in nursing education.

Past Award for Excellence in Nursing Education Recipients

2011	Leanda Ismail, Clinical Facilitator, NPDU
2012	Angela Henson, Renal Nurse Educator
2013	Andrea Thompson, Simulation Coordinator
2014	Donna McLean, Orthopaedic Nurse Educator

Award for Excellence in Allied Health Education

This prestigious award is presented to exemplary allied health clinicians who contribute to clinical education who have, and continue to, support the professional education and development of allied health students and allied health clinicians at the PA Hospital.

Allied health clinicians who contribute to clinical education strive for continuous improvement in access to, and quality of clinical education for pre-entry students and new graduates. They employ a range of evidence based clinical education strategies underpinned by the principles of sustainability, consistency, efficiency and collaboration. Allied health clinicians who contribute to clinical education are committed to clinical education that is planned, managed and evaluated to make a contribution to the safe clinical care outcomes for the patients of PA Hospital services. It is an expectation that all allied health clinicians contribute to the education of students.

Excellence in allied health clinical education continues to become increasingly important due to a number of factors. These include:

- Allied health professional education programs requiring work integrated clinical education and therefore the support of allied health clinicians to manage, supervise and evaluate student performance.
- Growth in allied health education programs at Universities creating an increasing number of allied health students requiring clinical placements.
- Evidence supporting the contribution of clinical placements to the development of a highly skilled allied health workforce with allied health students contributing to achieving optimal patient outcomes.

The award for excellence in allied health clinical education is determined by the Executive Director of Clinical Support Services with support from the allied health workforce development team and the Chair of the Metro South Allied Health Clinical Educator Network.

Past Award for Excellence in Allied Health Education Recipients

2010	Jenny Lethlean (Speech Pathology)
2011	Tom Steffens (Medical Imaging)
2012	Karl Winckel (Pharmacy)
2013	Sarah Bowden (Social Work)
2014	Janelle Gesch (Physiotherapy)

Chairs and Speakers



Ms Kimina Andersen

Kimina is both Aboriginal and Torres Strait Islander, with maternal ties to Cape York and Darnley Island in the Torres Strait and paternal heritage to the South Burnett region near Cherbourg. She is the Director for the Way Forward project, which focusses on improving health outcomes for Indigenous community members with mental health and addictions issues. She is currently the Indigenous clinician representative on the State-wide Queensland Health Mental Health Alcohol and Other Drugs Clinical Network and represents them on the Queensland Clinical Senate.

Kimina began her social work career in Queensland Health as a community-based mental health clinician in 2000. She worked for a number of years in the area of corporate mental health policy before moving into forensic mental health as a researcher and clinician. She was a co-investigator and project manager on Australia's largest study of the mental health of Indigenous prisoners in Queensland. This led to a further study of Post-Traumatic Stress Disorder among Indigenous women in custody, part of which is the subject of her doctorate at the University of New South Wales.



Dr Richard Ashby

Dr Ashby is the Health Service Chief Executive of Metro South Health and is one of the state's most experienced clinicians and health administrators. In 2010, Dr Ashby was awarded a Member of the General Division of the Order of Australia for service to emergency medicine, to medical administration, and to a range of professional associations. He is active across a broad range of medical areas, including teaching, research and consultancy.

Dr Ashby was most recently the Executive Director and Director of Medical Services at the Princess Alexandra Hospital (PAH). He was appointed Director of Emergency Medicine at the Royal Brisbane Hospital in 1989, a post he held until his appointment as Executive Director Medical Services at the Royal Brisbane and Women's Hospital (RBWH) in 2000. In the period 2000-2006, he also acted as District Manager at both the RBWH and PAH for lengthy periods. Dr Ashby commenced as Chief Executive of Metro South in July 2012.

Dr Ashby contributes to a significant number of organisations/committees. His roles include: Director, Translational Research Institute Board Member, Brisbane Diamantina Health Partners Board Member, Australian e-Health Research Centre Board Member Australian Prostate Cancer Research Centre Member, Health Support Queensland Advisory Board Chair, Queensland Policy and Advisory Committee on Health Technology Project Lead, Queensland Digital Hospital Program

Dr Ashby's qualifications: MB BS University of Queensland Bachelor of Health Administration, University of New South Wales Fellow, Royal Australian College of General Practitioners (FRACGP) Fellow, Australasian College for Emergency Medicine (FACEM) Fellow, Royal Australasian College of Medical Administrators (FRACMA).



Dr Victoria Atkinson

Dr Victoria Atkinson is a Senior Staff Specialist Medical Oncologist at the Princess Alexandra Hospital since 2007 and Visiting Medical Oncologist at Greenslopes Private Hospital since 2011. Her undergraduate training was undertaken at the University of Queensland and she completed her FRACP in Medical Oncology in 2006. Her tumour interests include Melanoma and Gastro-intestinal tumours. She has extensive experience with targeted therapies for Melanoma including Vemurafenib, Dabrafenib, Trametinib and Ipilimumab, Nivolumab and Pembrolizumab and is involved in clinical trials with these therapies at both sites.

Chairs and Speakers



Dr Sridhar Atresh

Dr Sridhar Atresh assumed the role of Director, Queensland Spinal Cord Injury Service on 9 September 2009.

He was formerly the Director of the Auckland Spinal Rehabilitation Unit as well as Clinical Head of Rehabilitation Services, Counties Manukau District Health Board, New Zealand and completed his Fellowship of the Australasian faculty of Rehabilitation Medicine in 2003.

Prior to this he worked as an Orthopaedic Surgeon in India, United Arab Emirates and New Zealand. He has an extensive background in Orthopaedic Surgery as well as Rehabilitation Medicine with a particular interest in spinal cord impairment.

Dr Atresh also completed an AO fellowship in Orthopaedic trauma at UCLA, California in 1999 and received the Edward Roche travelling fellowship for his research on community re-integration of lower limb amputees in 2002.

His special interests include the management of spasticity, upper limb problems, aging as a result of spinal cord impairment and he enjoys working in a client centred interdisciplinary team environment.



Dr Stephen Ayre

Dr Stephen Ayre was appointed to the position of Executive Director Princess Alexandra Hospital (PAH) and QEII Jubilee Hospital (QEII) Health Network, Metro South Hospital and Health Service, Brisbane on 5 May 2014. Stephen was previously the Executive Director Medical Services - The Prince Charles Hospital (TPCH).

Stephen is a graduate of the University of Queensland (UQ) Medical School, has a Masters in Health Administration from the University of NSW and is a Fellow of the Royal Australasian College of Medical Administrators (RACMA). He currently is the Chair of the Education and Training Committee for the College of Medical Administrators.

In the past Stephen has worked as a general practitioner on the Sunshine Coast after postgraduate experience in a number of Queensland Hospitals. During his work in general practice he developed an interest in Alcohol and Drug Medicine and Community Medicine and is a member of the Australasian Professional Society for Alcohol and Drugs.

His appointments with Queensland Health have included Director of Community Health - Sunshine Coast, Medical Superintendent - Caboolture Hospital, Deputy Executive Director Medical Services - Royal Brisbane Hospital and Medical Superintendent for the Royal Women's Hospital (RWH). In Tasmania, he was the CEO of the Launceston General Hospital (2004-2008) and acted as the CEO for all three northern Tasmanian Hospitals for a prolonged period.

His interests are in the areas of safety and quality in complex health environments, accelerated process redesign and the hospital community interface.



Ms Sarah Bailey

Sarah Bailey is an Allied Health Workforce Development Officer and Psychologist. She has extensive experience in organisational development having completed her Masters in Organisational Psychology. She has worked across the public and private sector, both in Australia and overseas.

Chairs and Speakers



Dr Helen Benham

Dr Benham is a consultant rheumatologist at Princess Alexandra Hospital and acting head of the University of Queensland School of Medicine, Princess Alexandra/Southside Clinical School. Helen divides her time between clinical practice as a rheumatologist and basic science and clinical research into rheumatic diseases. She completed her medical degree at the University of Sydney in 2002 and subsequently gained her FRACP in 2010. In 2010 she spent a year as a research fellow in the UK at Addenbrooke's Hospital/Cambridge University investigating Th17 and Th22 cells in patients with Psoriasis and Psoriatic Arthritis.

Following her return to Australia Dr Benham completed her PhD in Professor Ranjeny Thomas's lab converging on IL-23 signalling in the SKG mouse model of Spondyloarthritis. The focus of her continuing research is the study of pre-clinical Rheumatoid Arthritis, to understand the relationships between genetics and environment in the development of RA, evaluate and explore hypotheses regarding disease initiation, develop predictive models of disease, evaluate pre-clinical interventions and novel immunomodulation including antigen-specific therapy.



Mr Sean Birgan

Mr Birgan has over 32 years of nursing experience. He is currently appointed Director of Nursing of Division of Surgery, Princess Alexandra Hospital. The division includes Specialist Surgical wards, Outpatient areas, Peri Operative Service and Critical Care Service.

Mr Birgan holds Post Graduate qualifications in Critical Care Nursing and Business Management. He has a keen interest in the development of nursing staff into leadership roles and the promotion of new models of nursing care. He also has a keen interest in disaster management and preparedness. Sean was the coordinator for recent G20 preparations involving the PA and Metro South Health Service.

Mr Birgan provides ongoing support to Indonesian Nurses and Health Executives working in Bali as part of the Bali Memorial Package. This role incorporates assisting in the improvement of the health service in Bali and developing the leadership and management skills of Balinese health care workers.



Mr Robert R Bowen

Mr Bowen has an extensive background in the health care industry and technology commercialisation. As National Manager of a Commonwealth program Robert provided commercialisation advice and assistance and some initial funding to new technology companies.

Previously he was a founder director of the Triton foundation, a not-for-profit association providing assistance to start-up companies with a focus on youth assistance, and a consultant advisor to the Commonwealth on pharmaceutical industry research and development.

In the health area Mr Bowen has been a board member of the Wesley Hospital, General Manager of an Australian public listed medical biotechnology research and marketing company, Director of a university-based biotechnology company and Executive Director of an international pharmaceutical company in Australia.

Mr Bowen has a BSc degree from the University of NSW and a MBA degree from Macquarie University.

Dr Justin Boyle

Dr Boyle is a research scientist at CSIRO within the Digital Productivity Flagship and is passionate about performance engineering to improve patient flow. He has an engineering background and leads several projects related to improving the efficiency and productivity of health services. He is particularly interested in the analysis, visualisation, and interpretation of data to derive new insights and knowledge that can help shape policy.

Chairs and Speakers



Ms Angela Bryant

Ms Bryant is the Acting Research Governance Officer for Metro South Addiction and Mental Health Service and has extensive experience in planning, developing and managing research activities. The majority of Ms Bryant's working life was as a Paralegal dealing mainly in the area of property acquisitions and disposals as well as Commercial Leasing, Wills and Estates. In 2009 she began working with the Mental Health Service as an Executive Support Officer and then in Project Management, pre-commissioning three building projects including the Community Care Units at Bayside and Logan as well as three new wards at Logan Hospital. On completion of the projects, Ms Bryant moved into Research Governance where she is currently employed as a Research Coordinator for a large commercial clinical trial as well as coordinating all the other research projects ensuring that ethical requirements and study protocol legal requirements are met and that the outcome of the projects reflect a progressive, quality and customer focused service.



Dr Ellen Burkett

Dr Burkett is an emergency physician at Princess Alexandra Hospital Emergency Department and clinical lead of CARE-PACT. She is a PhD candidate with the University of Queensland's Centre for Research in Geriatric Medicine, developing a quality framework for the care of older persons in the Emergency Department, and is deputy chair of Australasian College of Emergency Medicines' Geriatric Emergency Medicine Special Interest Group.



Dr Tom Campbell

Dr Campbell is a medical scientist (MBBS/DPhil) who is interested in ophthalmology. His long term goal is to work at the junction of medical practice, academic research, and teaching. He is particularly interested in Indigenous and third world outreach ophthalmology services and the logistical, as well as scientific, obstacles to providing cutting edge ophthalmic care to these communities.



Ms Veronica Casey

Ms Casey is currently the Executive Director Nursing and Midwifery Services, Metro South Health and Executive Director Nursing Services, Princess Alexandra Hospital. Ms Casey has held diverse roles over her 35 years as a Registered Nurse and Midwife covering clinical leadership roles, quality management and change management positions.

In the last 17 years Ms Casey has held executive leadership roles within Queensland Health and since 2006 she has served as the Executive Director of Nursing and Midwifery Services for the Metro South Hospital and Health Service. In this time Ms Casey, with her team, has led the Princess Alexandra Hospital to successfully achieve two Magnet redesignations issued by the American Nurses Credentialing Centre (ANCC) and is now also supporting the rest of Metro South Nursing and Midwifery Services on the Pathways to Nursing Excellence Program©.

Ms Casey's experience and expertise in the nursing profession has seen her serve on the Australian Quality and Safety Commission for four years and her commitment to nurse regulation and education has seen her hold membership on the Queensland Nursing and Midwifery Board Australia (QNMB) and more recently participate on the Nursing and Midwifery Board of Australia. Since 2010 she has served as an inaugural ANCC International Magnet Commissioner and she has recently taken on the role of Deputy Chair Commission on Magnet.

Chairs and Speakers



Ms Christiana Cheng

Ms Cheng is a Research Associate at the Rick Hansen Institute in Vancouver, Canada, where she manages the Access to Care and Timing (ACT) Project. The ACT project is a research study aimed to 1) understand the processes of health care delivery for persons sustaining a traumatic spinal cord injury (tSCI); 2) evaluate the impact of timing and location of care on patient and system outcomes using a computer simulation model of the tSCI care continuum; and 3) develop a national action plan with stakeholders from across the care continuum to implement changes. Evidence generated from the project will help inform care hopefully leading to improved patient flow and service access for spinal cord injury care. The ACT Project started in Canada and is expanding internationally including Australia. Ms Cheng obtained her PhD in 2007 from the Department of Biological Sciences in Simon Fraser University and had received a post-doctoral

fellowship from Natural Sciences and Engineering Research Council of Canada.



Ms Renea Collins

Ms Collins is the Clinical Director for eHealth at Metro South Health Service. This position provides clinical leadership, strategic direction and leads the change management in the implementation of an integrated electronic medical record. She has been the Clinical Lead for the ieMR project at PAH since 2012 which has seen the implementation of Release 1 and Release 2 functionality across the hospital. In November 2015, PAH will implement the largest release of functionality at once in a large tertiary public hospital in Australia.

Her recent clinical background has been as the Venous Thromboembolism (VTE) Clinical Nurse Consultant in which she has coordinated a VTE prevention program at a tertiary hospital & health service district that has led to significant and sustained improvement in appropriate

VTE prophylaxis rates. Among some of her past achievements include the national nursing co-ordinator of multi-centre clinical audit and finalist and runner-up for the American Nurses Credentialing Center (ANCC) Magnet prize 2008 and 2009 respectively. She has participated in oral and poster presentations at international and national conferences and has published several articles related to VTE and nursing.



Professor David Crompton

Professor Crompton is Executive Director of Addiction and Mental Health Services Metro South Health. Professor Crompton worked in private practice as a rural general practitioner prior to commencing psychiatry training and spending 12 years in private psychiatry practice. He has been appointed a Professor within the School of Health Service and Social Work and holds academic titles with the University of Queensland and Queensland University of Technology. He has held leadership roles in Queensland Health and New South Wales Health and is the coordinator for the Centre for Neuroscience, Recovery and Mental Health.

Professor Crompton was awarded a Medal of the Order of Australia for development of community based mental health services for veterans, development of community post-traumatic stress disorder and anxiety and substance abuse treatment services. His research interest includes the impact of trauma and natural disasters, suicide and factors that influence recovery of individuals with mental illness.



Dr Kate Cuff

Dr Cuff initially graduated from the University of Sydney with a Bachelor of Science and first class honours in molecular genetics then continued to a postgraduate Bachelor of Medicine through the University of Queensland. Her training in medical oncology was through the Princess Alexandra Hospital and the Royal Brisbane Hospital in Queensland and she was appointed a full time staff specialist in Medical Oncology at the Princess Alexandra Hospital in 2011. Dr Cuff manages patients with all cancer types but has interests in, and is actively involved in research, within the fields of breast, colorectal, central nervous system and genitourinary malignancies.

Chairs and Speakers



Hon Cameron Dick MP **Minister for Health and Ambulance Services and Member for Woodridge**

Cameron Dick was appointed Queensland Minister for Health and Ambulance Services on 16 February, 2015.

He is a graduate of the University of Queensland, where he obtained degrees in Law, Commerce and Arts. Cameron later obtained a Masters of Law at Trinity Hall, Cambridge.

After undertaking articles of clerkship at Brisbane law firm Goss Downey Carne, he was admitted as a solicitor and later a barrister of the Supreme Court of Queensland.

During the 1990s Mr Dick had the exceptional opportunity of working in Tuvalu, a small island nation in the South Pacific. He worked in Tuvalu under the Australian Volunteers Abroad program (now Australian Volunteers International) and served in Tuvalu as the Crown Counsel and as the nation's Attorney-General. He was appointed as the country's acting Attorney-General at the age of 27. Professionally, he has worked as a lawyer in both the public and private sectors, including working as a solicitor with Crown Law, the State Government legal office.

From 2009 to 2012 Mr Dick served as a Labor member of the Queensland Parliament. On his election in 2009 he was immediately appointed as Queensland Attorney-General and Minister for Industrial Relations, a rare honour for a first term MP. He later served as the Minister for Education and Industrial Relations in the Bligh Labor Government.

Mr Dick returned to practice law as a barrister following his defeat at the 2012 Queensland State election.

In 2014 he was preselected as the Labor candidate for the state seat of Woodridge following the retirement of Desley Scott MP. He became an active member in the Woodridge community and was once again elected to the Queensland Parliament on 31 January 2015.



Ms Josie Dietrich

Joseph (Josie) Dietrich is the research assistant on the Motivational Aftercare Planning (MAP) to better care project overseen by Metro South cross-disciplinary collaborators Professor Steve Kisely, Associate Professor Gail Robinson and Dr Marianne Wyder. This project is funded by the Australian Centre for Health Services Innovation (AusHSI).

Ms Dietrich sits on the Metro North Community Board Advisory Group (CBAG), which serves to influence and provide recommendations to Metro North Hospital and Health Service on health stream planning and design. She is also a cancer patient advocate with CanSpeak QLD: a volunteer organisation that takes part in systematic and individual advocacy.

Qualifications: BA (Psych), Postgrad Diploma (Psych), MA.



Mr Michael Draheim

Mr Draheim is the CIO for Metro South Hospital and Health Services, based in Brisbane. Metro South provides specialist healthcare to a population of over 1 million people, or 23 per cent of Queensland's population. Metro South employs more than 13,000 staff at five major hospitals and a number of community and mental health centres and dental clinics.

Michael has a background in clinical, education, ICT and leadership positions and has worked in Queensland, New South Wales and Tasmania, across both the public and private sectors.

Michael has worked in clinical service management, waiting list management, policy development, clinical information systems, program/project management, organisational governance and change management positions. Utilising these experiences Michael is focused on driving innovation and working with clinicians in expanding the understanding and value informatics can bring to support service delivery.

Chairs and Speakers



Dr Emma Finch

Dr Finch is a conjoint research fellow between the Princess Alexandra Hospital Speech Pathology Department and The University of Queensland School of Health and Rehabilitation Sciences. Dr Finch's key research areas are focused on the assessment and rehabilitation of communication disorders in acquired brain injury, including stroke and traumatic brain injury. She is also interested in research capacity building and the translation of research into clinical practice.



Associate Professor Matthew Foote

A/Professor Foote is a Staff Specialist in Radiation Oncology specialising in stereotactic brain and body radiotherapy, neuro-oncology, melanoma and head and neck cancer. He has successfully lobbied for and established the first public Gamma Knife facility in Australia and is Co-Director of the unit. He is widely published in various journals and has a number of translational research collaborations in cutaneous SCC and melanoma at the Translational Research Institute, Brisbane.



Professor Ian Frazer

Professor Frazer is a clinician scientist, trained as a clinical immunologist in Scotland. As a professor at the University of Queensland, he leads a research group working at TRI in Brisbane, Australia on the immunobiology of epithelial cancers. He is recognised as co-inventor of the technology enabling the HPV vaccines, currently used worldwide to help prevent cervical cancer. He heads a biotechnology company, Admedus Vaccines, working on new vaccine technologies, and is a board member of several companies and not for profit organisations. He is current president of the Australian Academy of Health and Medical Sciences, and a member of the Commonwealth Science Council.

Professor Frazer was recognised as Australian of the Year in 2006. He was recipient of the Prime Ministers Prize for Science, and of the Balzan Prize, in 2008, and was elected Fellow of the Royal Society of London in 2012. He was appointed Companion of the Order of Australia in the Queen's Birthday Honours list in 2013.



Professor Maher Gandhi

Professor Gandhi is the Leukaemia Foundation of Queensland Chair of Blood Cancer Research at UQDI based at the TRI, and a Senior Staff Haematologist at the Princess Alexandra Hospital. He served as Chair of the Metro South Human Research Ethics Committee from 2011 to 2014.

Chairs and Speakers



Ms Areti Gavrilidis

Ms Gavrilidis has a health, science, business background with experience in the public and private sectors including health, education, business consulting and charity spanning a career of over 35 years. In 2002 she moved from Austin Health to the Princess Alexandra Hospital Centres for Health Research in Brisbane as Business Manager and later Director of Research Development, Ethics and Policy. In 2011 she was appointed to assist with the development of Queensland's first Academic Health Science Centre and is currently Executive Officer of the Brisbane Diamantina Health Partners.

She received a Bachelor of Science from Melbourne University in 1986, Bachelor of Applied Science (RMIT) and was awarded an MBA from Monash University in 1993. In 2008 she was awarded a Churchill Trust Fellowship to examine models facilitating translational research. She visited over 40 prestigious leading research Academic Health Science organisations in the USA, Canada and the UK and interviewed approximately 130 key individuals.



Mr Frederick Graham

Mr Graham is Clinical Nurse Consultant (CNC) for Dementia & Delirium at Princess Alexandra Hospital. In this role, Mr Graham has been involved in developing and implementing quality initiatives for people with cognitive impairment including the recent formation of a cognition champion's network throughout the hospital. He is currently undertaking his PhD at the Queensland University of Technology focusing on how acute-care nurses make decisions about care for people with dementia.



Mr James Grant

Mr Grant is currently the clinical lead pharmacist for the medications management subproject of the ieMR. James has a passion for computer technology; particularly programming and databases. He was instrumental in the development of the PAH Prescribing Guidelines app, which was programmed with clinical and editorial input from past and present drug use evaluation pharmacists. His role as clinical lead pharmacist focuses on creation and configuration of information systems that support healthcare and healthcarers.



Ms Sonia Hancock

Ms Hancock is the Research Governance Manager for the Centres for Health Research and has extensive clinical research experience particularly in Investigator Initiated studies. As an RN, Ms Hancock worked in Oncology/Haematology before commencing as a clinical trial coordinator for immunotherapy studies for a period of 10 years. She was the Acting HREC Coordinator for the Mater HREC, before joining the PAH Centres for Health Research as the HREC Coordinator for Metro South HREC in 2012. In August 2014, Ms Hancock became the Research Governance Manager where she draws on her experience as a trial coordinator and in-depth HREC knowledge to facilitate governance authorisation.

Chairs and Speakers



Dr David Hansen

Mr Hansen is CEO of the Australian e-Health Research Centre, a joint venture between the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Queensland Health. He leads a research program of over 65 scientists and engineers developing information and communication technologies for the healthcare system. Project areas include predictive analytics, health informatics, biomedical imaging, mobile and tele-health. Prior to joining CSIRO, Mr Hansen worked for LION Bioscience Ltd in the UK, developing genomic data and tool integration software that was used to publish the first human genome and is now used at over 200 pharmaceutical and biotechnology companies and research institutes world wide.

Mr Hansen is also the Chair of the Board of the Health Informatics Society of Australia (HISA) and played a key role in initiatives such as the introduction of the Certified Health Informatician Australia (CHIA) program and the annual Health Informatics Conference (HIC) and Big Data conferences.

Mr Hansen is passionate about the role of information and communication technologies in health care and the role of Health Informatics professionals in developing a safe, high quality efficient and sustainable healthcare system in Australia.



Professor Amanda Henderson

Professor Henderson has an extensive career in nursing education, research and leadership in both academic and clinical settings internationally and in Australia. She was Discipline Scholar (Health) in 2010 with the Australian Learning Teaching Council.

Her substantive position is Nursing Director, Nursing Practice Development Unit at the Princess Alexandra Hospital where she provides leadership and guidance for education initiatives and directives across Metro South Health comprising more than 5,000 nursing staff. Her scholarship is focused on the establishment of clinical settings that promote learning in practice, including the utilisation of health care knowledge.



Professor Adrian Herington

Professor Herington studied Biochemistry at Monash University in Melbourne, Australia, where he received his PhD for studies in the growth hormone (GH) and insulin-like growth factor (IGF) fields in 1973. After postdoctoral work in the USA, he continued this work leading independent research groups at the Prince Henry's Hospital Research Centre and the Royal Children's Hospital in Melbourne, until moving to the Queensland University of Technology in Brisbane in 1995.

He was Head of School of Life Sciences and variously Acting Dean of Science/Science and Technology at QUT between 2000 and 2012. Currently, as the Associate Director of QUT's Institute of Health & Biomedical Innovation he is based at the Translational Research Institute on the Princess Alexandra Hospital research precinct where he leads the 130-strong contingent of QUT researchers. His personal research focusses on both the ghrelin axis and the receptor tyrosine kinase EphB4 in hormone-dependent cancers of the prostate and breast, seeking potential new therapeutic targets.

Chairs and Speakers



Professor Ken K.Y. Ho

Professor Ho commenced as Chair, Centres of Health Research, Princess Alexandra Hospital, Professor of Medicine University of Queensland and Adjunct Professor Queensland University of Technology, Brisbane in 2011. He graduated in medicine at the University of Sydney, obtained a doctorate degree from the University of New South Wales and undertook postdoctoral studies at the University of Virginia.

His research focuses on hormones and metabolism, investigating the causation of and treatments for obesity, muscle loss and physical frailty. The work is strongly translational closely integrating laboratory and clinical studies, directed at understanding how hormones act on cells and on the whole body. He has published over 200 scientific papers and written editorial commentaries for the Lancet. He serves or has served on the Editorial Boards of leading endocrinology journals including Journal of Clinical Endocrinology and Metabolism, Endocrinology, Growth Hormone and IGF Research and Best Practice in Endocrinology and Metabolism and as Section Editor of the Oxford Textbook of Endocrinology.

He received the inaugural 2011 Senior Plenary Award of the Endocrines Society of Australia, the 2000 Visiting Trust Professor and the 2008 Asia Oceania Medal of the British Endocrine Society. He is a past-president of the Endocrine Society of Australia and of the international Growth Hormone Research Society. He has served on NHMRC discipline review panels and was deputy chair in 2006. He is a member of the Specialist Medical Review Council, Australian Government. He was President of the Pituitary Society in 2013-2014 and made an Honorary Life Member of the Endocrine Society of Australia in 2014.



Professor Gerald Holtmann

Professor Holtmann is the Director of the Department of Gastroenterology & Hepatology, Princess Alexandra Hospital, as well as the Associate Dean Clinical at The University of Queensland, working across the two health faculties of Health and Behavioural Sciences, and Medicine and Biomedical Sciences. In addition, he is on the boards of the Translational Research Institute (TRI) and the Board of the Gallipoli Medical Research Foundation, both based in Brisbane.

He is an accomplished and internationally renowned Academic Gastroenterologist. Professor Holtmann has a particular research focus in the field of neurogastroenterology and has led pathophysiology research in the field of functional gastrointestinal disorders for nearly two decades. With the publication of more than 150 original articles and 94 reviews in high impact peer reviewed journals, Professor Holtmann is well known for his pioneering work in establishing the role that inflammation plays in functional gastrointestinal disorders. He is also considered one of the leading international experts in immune activation and disturbed gastrointestinal function.



Associate Professor Ruth E. Hubbard

Dr Ruth E. Hubbard is an Associate Professor in Geriatric Medicine at the University of Queensland and Consultant Physician in Geriatric Medicine at the Princess Alexandra Hospital. As a clinical academic, she has always combined hospital practice with research and teaching. While training as a physician and geriatrician in Cardiff, Wales, she completed an MSc in Medical Education and an MD on pathophysiological changes in frail older people. She then undertook a 2 year post-doctoral fellowship in Dalhousie University, Halifax, Nova Scotia with Professor Ken Rockwood. Here, she was able to test hypotheses regarding the determinants and manifestations of frailty through the interrogation of large datasets.

Dr Hubbard has published widely on the inflammatory aetiology of frailty, the difficulties of measuring frailty in clinical practice and the relationships between frailty and obesity, smoking, socioeconomic status and exercise and is currently ranked number 5 in a list of the world's leading experts in frail elderly research. She has generated more than \$4 million in grant income in the last 4 years, including an NHMRC Project Grant to derive a measure of frailty from the interRAI assessment instrument.



Associate Professor Warrick Inder

Dr Inder graduated from the University of Otago, NZ in 1988. He obtained his MD examining the effects of opioid peptides on ACTH secretion, before spending 2 years in the Neuroendocrine Unit of the Massachusetts General Hospital, Boston USA on a post-doctoral fellowship researching pituitary adenomas. He has worked as consultant Endocrinologist at Christchurch Hospital, NZ and St Vincent's Hospital, Melbourne and is currently a senior staff specialist at Princess Alexandra Hospital, Brisbane and Associate Professor with the University of Queensland. He is the President-elect of the Endocrine Society of Australia and chair of the Specialist Advisory Committee in Endocrinology for the Royal Australasian College of Physicians. His major clinical and research interests are pituitary and adrenal disease.



Ms Esther Jacobson

Ms Jacobson is the Research Coordinator for Spinal Trauma research projects within the Trauma Research Group of Professor Michael Schuetz (PA Hospital & Queensland University of Technology). Ms Jacobson has a nursing background, having trained in the UK and worked in a variety of specialist areas since, including clinical genetics, craniofacial surgery and retinoblastoma. Esther's strong interest and passion for evidence-based clinical research led her to her current role where she is actively overseeing the recruitment and follow-up of individuals with spinal cord injury in the Minocycline Trial, in addition to managing several other spinal trauma research projects.



Associate Professor Kiarash Khosrotehrani

A/Professor Khosrotehrani is a clinical scientist interested in skin biology, regenerative medicine and skin cancer. He was recently appointed at the University of Queensland Centre for Clinical Research (UQCCR) and the newly established Translational Research Institute in Brisbane, Australia. Dr Khosrotehrani obtained his MD from the Cochin-Port Royal School of Medicine at René Descartes University, Paris, France, specialized in Dermatology and a fellow of the Australasian College of Dermatologists. He is also a former graduate of the Ecole Normale Supérieure and the Institut Pasteur of Paris (Université Paris VI, Pierre et Marie Curie) where he obtained a PhD in Physiology and Physiopathology. He is a fellow of the Australian College of Dermatologists and a practising dermatologist at the Princess Alexandra Hospital and the Skin and Cancer Foundation's Queensland Institute of Dermatology.

During his post-doctoral training at Tufts-New England Medical Center, Boston, USA, Dr Khosrotehrani helped establish the contribution of pregnancy-associated stem cells to tissue repair by demonstrating their multipotent capacity with a specific potency towards the endothelial lineage. The originality of this work was recently acknowledged by the NHMRC through an achievement award (2011) and he is currently an NHMRC Career Development Fellow. The main focus of his laboratory, the Experimental Dermatology Group, is on mesenchymal-epidermal or stroma-tumour interactions in stem cell maintenance and cancer. His research has broad applications in skin wound healing, regenerative medicine and cancer initiation and progression.



Ms Madonna King

Madonna King - @madonnamking - is an award-winning journalist, commentator and author. A weekly columnist with Brisbane Times, she has authored six books, including the biographies of federal treasurer Joe Hockey and the wonderful Professor Ian Frazer. Madonna has 25 years' experience across newspapers, radio and television, and is the former host of ABC Radio's morning current affairs program. She now writes for the Sydney Morning Herald's Good Weekend Magazine and travels the nation facilitating conferences, emceeing and speaking.

Educated at the University of Queensland, and with a diploma in company directorships, Madonna also sits on two not-for-profit boards. She has daily debating practice with her husband and two young daughters.

Chairs and Speakers



Professor Alison Kitson

Professor Kitson is the Dean of Nursing and Head of School for the School of Nursing at the University of Adelaide. Before coming to Australia, Professor Kitson had a long and successful career in executive leadership, education and research in the United Kingdom. She holds many honorary positions internationally and has published extensively on the subject of implementing evidence into practice.

Her contribution to nursing is recognised through having been awarded many prestigious accolades including the Florence Nightingale Leadership Award in 2004; Distinguished Graduate of the Year from the University of Ulster in 2002, a Florence Nightingale Travel Award in 1999 and a Fellowship of the RCN in 1991.

In 2009 Professor Kitson became a Fellow of the American Academy of Nursing for her work on standards of nursing care and getting evidence into practice. In 2013 she was awarded an Honorary Doctorate from the University of Malmo in Sweden for her contribution to nursing scholarship and leadership.



Ms Rebecca Lacey

Ms Lacey is currently the HREC Coordinator for the Metro South Hospital and Health Service Human Research Ethics Committee. As a seasoned research ethics professional, with over seven years' industry experience, Ms Lacey brings to the position tertiary, government and research facility knowledge and expertise. Her introduction to research ethics came with a three year appointment at QIMR Berghofer, where she acted as Secretary to the Human Research Ethics Committee and its two sub-committees. More recently, Ms Lacey provided a Secretariat Service to QUT's Human and Animal Ethics Committees in addition to its Biosafety Committee.



Ms Fleur Langan

Ms Langan is a Medical Education Officer at Princess Alexandra Hospital. In this role she looks after the training and welfare of junior doctors. Ms Langan has an educational background with an interest in developing education programs, technology and mindfulness.



Dr Michael Lawley

Dr Lawley is the Research Group Leader of Health Informatics at CSIRO, based in the Australian eHealth Research Centre at the RBWH. In addition he is an Adjunct Professor with Griffith University's Institute for Integrated and Intelligent Systems and has been a member of the Technical Committee of the International Health Terminology Standards Development Organisation (IHTSDO) since 2010.

His background is in Databases, Distributed System Integration, and Description Logic. Currently he specialises in Clinical Terminology for high quality clinical data to support data integration and analytics for improving patient outcomes. His software, Snorocket, is used in the production of the Australian and International SNOMED CT releases as well as for the

Australian Medicines Terminology, while his terminology browser, Shrimp, has been adopted as the standard browser by NeHTA.



Dr Graham Leggatt

Dr Leggatt was born and raised in Brisbane where he completed a Bachelor of Science with honours at the University of Queensland in 1989. He undertook PhD studies on the immune response against parasitic worms at the Queensland Institute of Medical Research (QIMR), receiving his doctorate in 1993. Dr Leggatt then travelled overseas to the National Institutes of Health in Washington D.C. (USA) to begin a postdoctoral position studying killer T cell immune responses to the AIDS virus.

After almost 4 years abroad, he then returned to the Princess Alexandra hospital campus in Brisbane to continue studies on the role of killer T cells in viral infection (and cancer). His current position as a Senior Lecturer/ Senior Research Fellow at the UQ Diamantina Institute involves studies on immunotherapy of non-melanoma skin cancers.



Professor Stephen Lynch

Professor Lynch is currently Chair of Transplantation, Chairman of Division of Surgery Princess Alexandra Hospital Brisbane, Professor of Surgery University of Queensland, Surgical Stream Leader Brisbane Metro South Hospital and Health Service, and Consultant Hepatobiliary Surgeon at Mater Private and Mater Children's Hospitals in Brisbane.

He completed Undergraduate training at UNSW Sydney and underwent basic and advanced surgical training at St Vincent's Hospital in Sydney. His Transplantation Fellowship was completed in Pittsburgh USA in 1984/85 under the supervision of Professor Tom Starzl and he was admitted to Fellowship of the Royal Australasian College of Surgeons by examination in 1985.

Since 1986, Professor Lynch has held various positions including Director of Queensland Liver Transplant Service; Foundation Chair of Transplantation Biology Programme, Fellow of the Institute, and Member of the Board of the Queensland Institute of Medical Research; President of Transplantation Society of Australia and New Zealand; Council of Asian Transplantation Society; Council of The Transplantation Society; Member of Queensland Health Clinical Senate. He served as Associate Editor/Co-Editor/Section Editor or on the Editorial Boards of "Liver Transplantation and Surgery", "Transplantation", "Graft", "Australian and New Zealand Journal of Surgery", "Hepatogastroenterology", "International Journal of Hepatology".

Published manuscripts: >150, book chapters: 4. Awarded the "Pro Sanitate Medal" by Republic of Hungary, shared in the Award for Excellence by the Royal Australasian College of Surgery, Best Manuscript of the Year in the Journal of Investigative Surgery, The 2012 Australia Day Queensland Health Medal for Surgical Leadership.

Professor Lynch was awarded the Companion in the Order of Australia (AC) in the Queen's Birthday Honours List, 2015.



Associate Professor Graeme A Macdonald

A/Professor Macdonald is a Senior Staff Specialist in the Department of Gastroenterology and Hepatology and an Associate Professor in the School of Medicine of the University of Queensland at the Princess Alexandra Hospital.

He is a graduate of the University of Queensland and did his initial training in Gastroenterology and Hepatology at the Princess Alexandra Hospital. In 1994 he undertook a Hepatology Fellowship at the University of Michigan, and was appointed to the faculty there as a transplant hepatologist.

He currently works as a Transplant Hepatologist at the Princess Alexandra Hospital. His research interests include hepatic steatosis, and the effect of fitness and diet on liver disease and outcomes from liver transplantation.

Chairs and Speakers



Dr Peter Malycha

Dr Malycha's career has been as a general surgeon with a specialty interest in breast and endocrine surgery. He was employed as a visiting surgeon at Royal Adelaide Hospital and has a clinical academic title with the University of Adelaide.

His activities in the Royal Australasian College of Surgeons include being Councillor, Chairman of the Division of General Surgery, President of General Surgeons Australia, Senior Examiner for FRACS in General Surgery, Chairman of the Section of Breast Surgery, Foundation and Executive member of the Section of Endocrine Surgery and founding Director of the RACS National Breast Cancer Audit now known as BreastSurgANZ Quality Audit.

In his current role he will assist with the translational activity between TRI and PAH, The Mater, UQ and QUT to take MRS technology to an in vivo, non-invasive process on a MRI scanner. The clinical interface will include the development of MRS in other organs, particularly brain and ovary. Its application is neither organ nor disease specific. He will also assist any TRI researcher who has problems accessing clinical support when trying to take their work to the translational phase. He is on the Management Committee of the Clinical Research Facility.



Dr Roberta Mazziere

Dr Mazziere obtained her PhD in Genetic Science from the University of Pavia (Italy) and subsequently undertook one post-doctoral position at the New York University (USA) and two at the San Raffaele Scientific Institute in Milan (Italy). Since her PhD studies, she focused on understanding the tumor microenvironment by examining a number of related molecular pathways including the uPA/uPAR system and TGFβ1 activation. During her last postdoc with Professor Naldini, she made her most significant and clinically-applicable contribution to cancer research by exploiting advanced gene transfer technologies to study the interplay between tumour associated macrophages and tumor angiogenesis. She demonstrated that targeting the ANG2/TIE2 pathway inhibits tumor angiogenesis, growth, and metastasis by disabling the pro-angiogenic activity of tumour associated Tie2-expressing macrophages

(TEMs), thus impeding the emergence of evasive resistance to anti-angiogenic therapy. In 2011 this work was featured as cover article in *Cancer Cell*. Moreover, by turning TEMs into efficient delivery vehicles, she worked to target a key immune modulatory protein, IFN-α, to tumors and achieved substantial antitumor activity in several tumor models including a human model of breast cancer. This work was recently published as cover article in *Science Translational Medicine*. In 2012 she was nominated by the Young Ambassadors from the Metastasis Research Society (MRS) to speak at MRS meeting in recognition of her potential to launch independent research and contribute to high-quality publications. The same year she was recruited by the University of Queensland to establish her own research group.

At the UQ-Diamantina Institute she is now continuing her work on targeting pro-tumoural macrophages to inhibit tumour progression with a specific focus on breast cancer metastasis. She is also continuing her work on demonstrating the therapeutic potential of turning tumour infiltrating macrophages into efficient delivery vehicles of anti-tumoural biomolecules.



Ms Karen McCann

Ms McCann is a mother and grandmother with many years' of lived experience as both a carer and a consumer. After volunteering as a parent representative for six years, she was employed as a Consumer/Carer Consultant for Mater CYMHS from 2002-2009. She has presented at many conferences, seminars and workshops and has co-authored two journal articles on the value of the consumer and carer voice and the impact of their involvement across all levels of service delivery.

Karen worked as a Senior Project Officer within the statewide Mental Health Alcohol and Other Drugs Branch from 2009-2015 and was involved with the development of the Consumer, Carer and Family Participation Framework, The Consumer and Carer Representative Program, The Consumer Companion Program, The Consumer and Carer Workforce Network, Carers Matter initiatives and the Housing and Support Program (HASP). Earlier this year, she was appointed to the role of Community Consumer/Carer Consultant for the Logan Community Care Unit (CCU), Metro South Addiction and Mental Health Services, where she provides professional supervision to the local Peer Recovery Support Workforce. Ms McCann has been a member of the National Register of Consumer and Carer Representatives, facilitated by Mental Health Australia, since its inception in 2008.



Dr Margaret McGrath

Dr McGrath works as a Medical Oncologist at the Princess Alexandra and Greenslopes Private Hospitals. She is a member of the multidisciplinary clinics in head and neck, thoracic, upper-gastrointestinal, and neuro-oncology within the Princess Alexandra Hospital. She is actively involved in clinical trials within these areas and is the Principal Investigator for a number of trials for head and neck cancer, her special area of interest.



Dr Steven McPhail

Dr McPhail is a Principal Research Fellow in the Centre for Functioning and Health Research at PA Hospital. He is a health services researcher with formal qualifications in physiotherapy and health economics. He holds an NHMRC Career Development Fellowship in the field of Clinical Research and is a member of the NHMRC Research Translation Faculty. In the past 5 years he has been awarded more than 30 competitive research grants (exceeding \$5 million), and published more than 70 peer reviewed publications since 2010. This includes publications in field leading policy and practice journals like Medical Care, Journal of the American Medical Association Internal Medicine, and The Lancet.



Dr Ken Miles

Dr Miles is Senior Medical Officer at the Princess Alexandra Hospital, Brisbane, and Professorial Research Associate in the Institute of Nuclear Medicine, University College London. He is dual-trained in Radiology and Nuclear Medicine and undertakes research in Australia and the UK, whilst conducting clinical work in Australia. He has been either Principle Investigator or Associate Investigator for research grants in Australia and the UK totalling more than \$5 million. His scientific interests lie in the functional imaging of tumours, ranging from the development of new techniques through to demonstrating cost-effectiveness. He has wide experience in Positron Emission Tomography, having been involved in the establishment of four PET centres worldwide, including the PET/MRI system at PAH. He previously served on the Technical Advisory Committee for the Australian government's PET review and completed a term as co-lead of the UK National Cancer Research Institute's PET Research Network. He has authored or co-authored more than 100 peer-reviewed scientific publications and contributed to or edited 11 books in Radiology. Dr Miles is co-editor in chief of the journal Cancer Imaging.



Associate Professor Peter Mollee

Dr Mollee practices as a consultant haematologist in clinical and laboratory haematology at the Princess Alexandra Hospital and is Associate Professor with the University of Queensland Medical School. He holds appointments with the Medical Scientific Advisory Group of the Myeloma Foundation of Australia and Scientific Advisory Committee of the Australasian Leukaemia and Lymphoma Group (ALLG). Dr Mollee chairs the Myeloma Subgroup Committee of the ALLG and co-chairs the High Grade Lymphoma Subgroup. Dr Mollee obtained a Masters in Clinical Epidemiology with a specialisation in Research Protocol Design and has a particular interest in the plasma cell dyscrasias, particularly AL amyloidosis. He heads the Myeloma Service as well as the Princess Alexandra Hospital Amyloidosis Centre which runs one of the few clinics in Australia dedicated exclusively to the care of patients with amyloidosis.



Dr Andrew Moore

Dr Moore is a Paediatric Oncologist at the Lady Cilento Children's Hospital. He is also the Group Leader of the Childhood Leukaemia Research Lab at UQ Diamantina Institute and Director of the Queensland Children's Tumour Bank. After completing his medical degree at UQ, Dr Moore undertook his intern and JHO years at the Princess Alexandra Hospital before focusing on paediatrics and sub-specialising in paediatric oncology, receiving his FRACP in 2009. Following clinical training, Dr Moore undertook a laboratory-based PhD in drug development for acute myeloid leukaemia at the Institute of Cancer Research, University of London. In 2012, he returned to Australia as the recipient of an NHMRC Early Career Fellowship and took up a clinician-scientist position at the Royal Children's Hospital and the Queensland Children's Medical Research Institute.

Dr Moore has a clinical and research interest in childhood leukaemia, particularly AML and moved his laboratory research team to UQDI at TRI in March this year to join the expanding blood cancer research program. In addition to his leukaemia research, Dr Moore is Director of the Queensland Children's Tumour Bank; one of only 3 dedicated paediatric cancer biobanks in Australia. The bank collects tumour material from infants, children and adolescents with all types of cancer and leukaemia and collaborates with research groups in Australia, the US, Canada and the UK. In 2014 alone, the bank contributed to landmark research projects shedding new light on brain tumours and leukaemia with resultant publications in *Nature Genetics*, the *New England Journal of Medicine* and *Cell Stem Cell*.



Adjunct Professor Alison Mudge

Adjunct Professor Mudge is a general physician and a Queensland Health Research Fellow. She is Clinical Director of Education and Training, Internal Medicine and Aged Care, Royal Brisbane and Women's Hospital, and Clinical Director, Australian Centre for Health Services Innovation (AUSHSI). She leads a collaborative multidisciplinary research group committed to improving complex hospital and post-hospital care for older patients.



Professor Kenneth O'Byrne

Professor O'Byrne is a Consultant Medical Oncologist at Princess Alexandra Hospital and Queensland University of Technology having recently arrived from St James's Hospital (SJH) and Trinity College, Dublin. He qualified from University College, Dublin (UCD) in 1984, completed his higher professional oncology training at the Churchill Hospital, Oxford 1997 and subsequently worked at the University Hospitals of Leicester NHS Trust and University of Leicester until returning to Dublin in November 2003. He has a Doctorate Degree in Medicine from UCD and is a Fellow of the Royal College of Physicians, Ireland. He was Clinical Director of the HOPE directorate at SJH until stepping down on 30 June 2012 after his appointment in Brisbane.

Professor O'Byrne is a founder member and president of the British thoracic oncology group (BTOG) and British mesothelioma interest group (BMIG). He is also a co-founder and board member of the European thoracic oncology platform (ETOP). He is past-chair and current member of the international association for the study of lung cancer (IASLC) fellowship committee and is a member of the CME committee. He is on the education committee for the IASLC world conference for lung cancer Sydney 2013 and is part of the ESMO chest tumours faculty and involved in developing the upcoming programs for the Amsterdam and ESMO meetings in Madrid. Professor O'Byrne was an active member of the Irish Society of Medical Oncology (ISMO) and the Irish Clinical Oncology Research Group (ICORG) chairing the lung cancer disease specific sub-group. He is a member of the all Ireland Lung Cancer Forum (AILCF), EORTC lung cancer group, American Society of Clinical Oncology (ASCO) and the American Association for Cancer Research (AACR). Professor O'Byrne retains an honorary chair at Trinity College and continues to supervise the thoracic oncology research group in the institute of molecular medicine on the SJH campus focusing on cancer cell survival and drug resistance mechanisms as novel biomarkers and targets for therapy. He and Dr Derek Richard are the directors of the cancer and aging research program (CARP) in the Translational Research Institute, Brisbane focused on DNA stability. Professor O'Byrne has protected intellectual property for a novel lung cancer diagnostic miRNA signature and Inhibitors of Apoptosis Protein (IAP) targeted novel small molecule SMAC mimetics.

Professor O'Byrne is a member of the editorial boards for the 'Journal of Thoracic Oncology', 'Lung Cancer', 'Lung Cancer Management' and 'Chinese Clinical Oncology', has edited 2 text books in thoracic oncology and published over 230 manuscripts in peer-reviewed books and journals.



Associate Professor Ben Panizza

Dr Panizza is the Director of Otolaryngology, Head and Neck Surgery at the Princess Alexandra Hospital and Chairman of ENT for Metro South HSD, responsible for the Departments clinical delivery, teaching and research. He is the founder and current Co-Director of the Queensland Skull Base Unit and together with Sam Dowthwaite has commenced the transoral robotic (TORS) surgical program at PAH. He is the past president of the Australian and New Zealand Head and Neck Cancer Society. He is actively involved in Head and Neck cancer surgery with a special interest in skull base malignancy and portal access for deep tumour surgery. Dr Panizza is also the Director of the Queensland Head and Neck Cancer Centre charged with facilitating and leading the translation of basic research at the TRI and QIMR into the Head and Neck Clinic. He is currently supervising multiple research higher degrees through his courtesy position with

the southside School of Medicine, UQ. He is GCP trained and is currently the lead investigator in two phase I trials. He is a regular contributor to the scientific literature and sits on the Editorial board of a number of ENT and Head and Neck Journals. In his spare time he likes to examine the part 2 exit exams for the Royal Australasian College of Surgeons.

Chairs and Speakers



Dr Stephen Parker

Dr Parker is a Psychiatrist working within the Rehabilitation Academic Clinical Unit at the Bayside and Logan Community Care Units. He is currently undertaking PhD studies through the University of Queensland focussing on understanding what works for whom in community based residential psychiatric rehabilitation.



Professor Andrew Perkins

Professor Perkins is a clinician scientist with a strong international reputation in genomics and developmental genetics of blood diseases. Dr Perkins undertook clinical training in Sydney and Melbourne, then post-graduate training at the Walter and Eliza Hall Institute and Harvard University. He has published 106 papers in high impact journals including Nature, Nature Methods, Immunity, PNAS, Genome Research, Genes & Development, MCB, EMBO J, JBC and Blood. He is an assistant editor for Blood. Dr Perkins has won numerous prizes and fellowships including a Wellcome Trust Senior Research Fellowship and a Victorian Young Tall Poppy award. He has trained 38 RHD and more than 20 post-doctoral fellows over the past 16 years, many of whom currently work in prestigious institutes including Harvard University, Cambridge University (3) and the Karolinska Institute. Dr Perkins is the Joint Program Leader in Blood and

Bone Diseases (BBD) at Mater Research within the Translational Research Institute (TRI), and Heads the Cancer Genomics Group within the TRI. He is co-leader of the Blood Cancers Program of the Brisbane Diamantina Health Partners. He has an adjunct professorial appointment at UQ in The Faculty of Medicine and Biomedical Sciences. The team's vision is to employ genomics to individualise treatment for patients with blood diseases. The BBD team provides complimentary expertise in genomics, animal models of disease, cell biology, drug target validation, trial governance, health service delivery, and community education to improve health outcomes for patients with blood diseases.



Associate Professor Christopher F.L. Perry

A/Professor Perry is Consultant Otolaryngologist, Head and Neck Surgeon at both Princess Alexandra Hospital and Lady Cilento Childrens Hospital, Brisbane. He has been a consultant at the Royal Childrens Hospital since 1987 and Princess Alexandra Hospital since 1990 and is an Associate Professor at the University of Queensland. He received an Order of Australia Medal for services to ENT and Indigenous health. His CV includes over forty peer review articles and eight book chapters. He is currently vice President of Australian Society of Otolaryngology and Head and Neck Surgery and Chairman of the Multidisciplinary Head and Neck Cancer Clinic at Princess Alexandra Hospital. He has been an investigator in research projects which have secured approximately \$30 million in funding including a long time investigator in a project with Professor Alan Mackay-Sim which won the People's Choice Eureka Prize for

Translational Research in 2011.



Associate Professor Peter Pillans

A/Professor Pillans is Director of Clinical Pharmacology at Princess Alexandra Hospital, Specialist Physician in General Medicine and Associate Professor, UQ.

He chairs numerous hospital drug committees, is deputy chair of the Qld Hospitals Medicines Advisory Committee and serves on the Australian Committee of Prescription Medicines. He has a particular interest in drug safety and deprescribing. He previously served on ADRAC for many years and was head of the NZ centre for Adverse Reactions Monitoring.



Associate Professor Sandro V Porceddu

A/Professor Porceddu is currently the Director of Radiation Oncology Research and Deputy Director of the Radiation Oncology Department at the Princess Alexandra Hospital, Brisbane, and Associate Professor with the School of Medicine University of Queensland. He is the current President of the Trans Tasman Radiation Oncology Group (TROG) Cancer Research, the immediate past president of the Clinical Oncology Society of Australia (COSA) and board director of the Cancer Council of Australia (CCA). He is a member of numerous international and national committees including the UICC TNM Staging Classification International Expert Panel for Head and Neck and Skin cancer and RANZCR Faculty of Radiation Oncology.



Professor John Prins

Professor Prins is Director/CEO of the Mater Research Institute-UQ, Senior Endocrinologist at Princess Alexandra Hospital, and Professor of Endocrinology at The University of Queensland. He is also a Board Director of the Metro South Hospital and Health Service which has a budget of \$1.8billion and provides health care to over 1 million people.

He undertook his clinical training in Endocrinology and his PhD in adipose tissue biology in Australia. He then undertook a 4-year post-doctoral appointment at the University of Cambridge, UK. In 1998 he returned to Brisbane, Australia, where he established an active research programme undertaking clinical trials in Obesity and Diabetes and investigating various aspects of adipose biology, insulin signalling, and adipogenesis. Much of the

work involves cell- and molecular-biological analysis of human tissues. He has supervised over 20 PhDs and over 30 Endocrinology trainees.

He has received over \$15 million in research funding and has published over 140 research publications with a total of 10,000+ citations. He sits on numerous grant review and advisory committees for NHMRC, NGOs and Industry.



Associate Professor Tarl Prow

In 2004, A/Professor Prow earned his PhD from the University of Texas in the field of Nanomedicine. He then completed his T32 funded post-doc at the Wilmer Eye Institute at The Johns Hopkins Hospital and was faculty there until he relocated to the University of Queensland in 2007.

A/Professor Prow is now the Deputy Director of the Dermatology Research Centre and leads a NHMRC and ARC funded team that focuses on the development & evaluation of micro- and nano- technologies for detecting, preventing and treating skin cancer.

Chairs and Speakers



Dr David Pryor

Dr Pryor is a radiation oncologist at the Princess Alexandra Hospital. He is an Adjunct Associate Professor at the Australian Prostate Cancer Research Centre-Queensland, chair of the Genitourinary Committee of the Trans-Tasman Radiation Oncology Group and chair of the QLD steering committee for the Prostate Cancer Outcomes Registry (PCOR-ANZ). His research interests revolve around incorporating advanced imaging and precision radiotherapy into the management of urological and gastrointestinal cancers.



Associate Professor Kristen Radford

A/Professor Radford is a Senior Research Fellow and NHMRC CDA Level 2 fellow (2011-2014). She completed her PhD in 1997 from the University of Newcastle, NSW and was awarded NSW Young Australian of the Year in 1998. She then undertook a postdoctoral position at Imperial Cancer Research Fund, London (now Cancer Research UK) developing new dendritic cell-based vaccine strategies for cancer immunotherapy. She joined Mater Research in 2001 and played a key role in obtaining the preclinical data that justified the first blood dendritic cell vaccine trial in prostate cancer that was completed in 2009. Her research interests are now focussed on the development of new generation cancer vaccines that promise to be more effective in addition to being more practical and cost effective to produce.



Mr David Riley

Twenty years ago, Mr Riley sustained quadriplegia when he fractured the C2 level of his spinal cord in a bicycle accident. Prior to his accident, Mr Riley was an avid sports person competing in both individual and team sports at local and regional level. He graduated from The University of Queensland with a Bachelor of Human Movement Studies (Education), and taught for seven years in anatomy, physiology, health, nutrition and fitness leadership.

Since his accident, Mr Riley has been a subject of research projects with the Respiratory and Speech Pathology departments of the Princess Alexandra hospital and with the Speech Pathology Department, University of Queensland. He is featured in *Dysphagia Post Trauma* by Elizabeth C. Ward and Angela T. Morgan, Chapter 3 Traumatic Spinal Cord Injury.

Mr Riley has endeavoured to pass his extensive knowledge of anatomy and physiology on to others, along with his lived experience; becoming a mentor for people who have recently been injured and supporting their families. This includes visiting the Princess Alexandra Hospital's Spinal Injuries Unit to speak with people who have recently been injured.

Mr Riley has been a member of Spinal Injuries Australia since 1995, was elected to the Board in 2006, served as Chairman from 2007 to 2014 and continues as a Director today. He has assisted in the development of many policies, procedures and training programs for Spinal Injuries Australia. Mr Riley is a peer mentor using his personal experience and knowledge to assist others who suffer traumatic injuries.

Chairs and Speakers



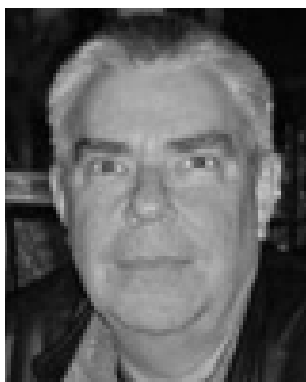
Professor Gary D. Rogers

Professor Rogers is a medical practitioner, health professional educational leader and public health researcher. He hails from Adelaide, South Australia, where he pioneered the development of interprofessional community-based care for people living with HIV in the 1990s. His PhD research at the University of Adelaide focused on Primary Health Care for people of sexual diversity utilising a health inequity framework. Before moving to Queensland, he worked for two years for the Secretariat of the Pacific Community, based in Nouméa, New Caledonia, where he coordinated HIV care training and mentorship across 22 Pacific Island countries and territories.

He is currently Professor of Medical Education and Deputy Head of School (Learning & Teaching) at the Griffith University School of Medicine, in addition to a role as Program Lead in Interprofessional and Simulation-Based Learning for the Griffith Health Institute for the Development of Education and Scholarship (Health IDEAS) and clinical work as an HIV physician at Gold Coast University Hospital. He is Immediate Past President of the Australian and New Zealand Association for Health Professional Educators (ANZAHPE) and chairs the Association's Fellowship Committee, as well as serving on the Executive Committee of AMEE, the International Association for Medical Education. In 2012 he was joint winner of the Griffith University Award for Excellence in Teaching in Health.

Professor Rogers was a member of the leadership team for the recent major Australian national Curriculum Renewal for Interprofessional Education in Health project, jointly funded by the Office of Learning and Teaching (OLT), Health Workforce Australia and the Government of Western Australia. He is currently a Chief Investigator for an OLT Extension Grant relating to the project.

His research interests include the prevention of sexually transmissible infections including HIV in developing countries and the utilisation of phenomenological methods to identify evidence of affective learning in the reflective journals of students undertaking experiential learning, as well as the use of extended, multi-method simulation of interprofessional clinical care for teams of medical students, with postgraduate pharmacy, nursing, dietetic, exercise physiology and clinical psychology students, to contextualise the learning of clinical assessment, diagnostic reasoning, teamwork and management decision making.



Associate Professor Richard Roylance

Dr Roylance (B Med Sc MBBS FRACP) holds appointments as Associate Professor (School of Medicine, Griffith University), Eminent Staff Specialist Paediatrician (Metro South Hospitals & Health Service), Sessional Member (Queensland Civil and Administrative Tribunal). He is the Chair of the MSHHS Human Research Ethics Committee (HREC) and a medical member of the PAH Clinical Ethics Committee (CEC).

His training is as General Paediatrician with sub-speciality expertise in Child Protection/Child Abuse & Neglect. This interest has expanded to include the issue of vulnerable persons more broadly. His non-clinical experience is in managing the interface between research and real-world practice.

He is a regular invited contributor (both presentations and publications) at the international, regional and national level within the area of child protection.

Chairs and Speakers



Dr Marc Ruitenberg

Dr Ruitenberg is the current SpinalCure Australia Research Fellow and a Senior Lecturer in the School of Biomedical Sciences at The University of Queensland (UQ). He is a member of the Trauma, Critical Care and Recovery Flagship of the Brisbane Diamantina Health Partners, and also the Clinical Trials Committee of Australia's Spinal Cord Injury Network (SCIN). A key focus of Dr Ruitenberg's own work is to better understand the role of inflammation in acquired central nervous system injury, in particular traumatic spinal cord injury; the ultimate goal of his research is to develop new and effective immune-modulatory treatments to improve recovery from neurotraumatic events. He is also actively engaged with the development of advanced magnetic resonance-based imaging techniques to better diagnose and treat spinal cord injury.



Professor Michael Schuetz

Professor Schuetz was recruited from Humboldt University Berlin, Germany where he trained in Orthopaedics and Trauma and in 2001 became Associate Professor of Trauma. In 2004 he was jointly appointed the first Chair for Trauma in Queensland through QUT/Qld Health whilst commencing a clinical position at Princess Alexandra Hospital, becoming the Director of Trauma. Following participation on the Working Party to finalise a Trauma System concept for Queensland, and subsequent State government funding, he became the first Chair of the Queensland Statewide Trauma Clinical Network in 2007.

He is a Fellow of the Royal Australasian College of Surgeons and a Fellow of the Australian Orthopaedic Association with special clinical interest in Orthopaedic Trauma including complex joint reconstruction. He is the current theme co-ordinator for the Diamantina Health Partners flagship theme; Integrated Trauma Centre.

His research group is located at the Institute of Health and Biomedical Innovation, QUT and the Translational Research Institute on the Princess Alexandra Hospital campus. This research focuses on fracture healing including mathematical modelling, CT/MRI Imaging and modelling, soft tissue trauma, and research that reviews and assess processes in trauma management. His research group currently holds several ARC grants along with further competitive research grants in these fields. In addition he is CI on a collaborative NHMRC grant on regeneration of large bone defects awarded \$450,000.



Professor Hamish Scott

Professor Scott did his PhD (1992) and first post-doc at the Women's and Children's Hospital and the University of Adelaide. During these 7 years he led the discovery of genes for 3 rare human diseases. After 11 more years, with the persistence of Professor John Hopwood and others in academia and industry, this resulted in either FDA approved therapy (2003) or clinical trials of novel therapies for these diseases.

In 1995, Professor Scott moved to the University of Geneva Medical School in Switzerland. His focus was, and remains, the application of genetic and genomic technologies to understand diseases processes to improve diagnoses and treatment. He led international collaborations in identification of human genes causing Down syndrome and rare forms of genetic deafness and autoimmunity (e.g. arthritis and multiple sclerosis). This continues to have profound effects on our understanding of basic biology of Down syndrome, hearing and the immune system and led to new therapeutic strategies in these and related diseases. This was also the start of his interest in cancer and leukemia as children with Down syndrome have a low incidence of solid tumours and a high incidence of leukemia. This is also when he started to work on familial predisposition to leukemia.

Professor Scott relocated to the Walter and Eliza Hall Institute of Medical Research (WEHI) in Melbourne in 2000 as the Inaugural Nossal Leadership Fellow. He was appointed as a National Health and Medical Research Council (NHMRC) senior research fellow in 2001. His laboratory identified 2 additional deafness genes and described the role of a gene in reprogramming the DNA of an "adult" cell from "normal" to become a gamete (sperm or oocyte). He also described a cause of familial predisposition to leukemia.

Since returning to Adelaide in January 2008 he has been Deputy and then Head of the Department of Molecular Pathology at SA Pathology. He is an inaugural member of the Centre for Cancer Biology an Affiliate Professor in both the Schools of Medicine and Molecular and Biomedical Science at the University of Adelaide and an Adjunct Professor in the School of Pharmacy and Medical Sciences in the Division of Health Sciences of the University of South Australia. He is an NHMRC principal research fellow and a Founding Fellow of the Faculty of Science (FFSc) of the Royal College of Pathologists of Australasia (RCPA). He recently led the identification of mutations in a gene in rare families and patients that predisposed them to acute myeloid leukemia (AML), infectious diseases and lymphoedema. He has helped develop and introduce new technologies and tests for improved treatment (personalized medicine) and is a Joint Director of the ACRF Cancer Genome Facility established at SA Pathology. In these roles he has been central to introducing both somatic and germline genotyping using next generation sequencing to SA Pathology at a panel, exome and whole genome level. Professor Scott had his own genome sequenced at the beginning of 2014 and learnt why he gets "man flu" and maybe why his mother died early 2014 from an unknown infection.



Associate Professor Ian Scott

Dr Scott is consultant general physician and Director of Internal Medicine and Clinical Epidemiology at Princess Alexandra Hospital in Brisbane. He is Associate Professor of Medicine at University of Queensland and Adjunct Associate Professor of Medicine at Monash University. He has research interests in evidence-based medicine, quality improvement, health technology assessment and guideline development. He is a member of Queensland Policy and Advisory Committee on new Technology (QPACT) and sits on the Executive Committee of the CSANZ/ NHFA Acute Coronary Syndrome Guidelines Update for 2015 in addition to various working groups of Royal Australasian College of Physicians, Queensland Health, and the Australian Commission of Quality and Safety in Health Care.

Chairs and Speakers



Professor H. Peter Soyer

Professor Soyer has a dual role within the University of Queensland as Head of the South-West Clinical Cluster & Deputy Head of the School of Medicine, and the inaugural Chair and Director of the Dermatology Research Centre at the Translational Research Institute. He is also Director of the Dermatology Department at the Princess Alexandra Hospital. Professor Soyer, an academic dermatologist from Austria, is a world leader in the field of dermatology with particular expertise in the areas of clinical dermatology, dermatooncology, dermatopathology and dermatologic imaging (dermoscopy and reflectance confocal microscopy). His research group's main focus is skin cancer (both non-melanoma skin cancer and melanoma), and he is co-inventor in multiple patents for novel skin delivery platforms and microbiopsy sampling devices. He has an extensive publication record with over 570 publications to date (more than 145 publications in the last 5 years) and more than 500 citations a year (in the last 5 years) and a Hirsch index of 59 (Google Scholar). He is past President of the International Society of Dermoscopy and the International Society of Teledermatology and is co-editor in chief of the Australasian Journal of Dermatology.



Dr Andrew Staib

Dr Staib is Deputy Director of Emergency Medicine at the Princess Alexandra Hospital in Brisbane. He has research interests in medical systems and models of care as well as lab based research into shock at a cellular level. In his role as Deputy Director of one of the most improved NEAT performing ED's in the country, he has presented widely on system reforms which can improve access to Emergency Care. He also is Co-Director of the Collaboration for Emergency Admission Research and Reform (CLEAR) Project.



Professor Michael Stowasser

Professor Stowasser is currently Director of the Hypertension Units and Co-Director of the Endocrine Hypertension Research Centre within the University of Queensland School of Medicine at Greenslopes and Princess Alexandra Hospitals in Brisbane. He has 25 years' clinical research experience in pathogenesis and management of hypertension and especially of endocrine varieties including primary aldosteronism, renovascular hypertension, pheochromocytoma and familial hyperkalemic hypertension. Working with mentor Richard Gordon, he helped to demonstrate that primary aldosteronism is at least 10 times more common than previously thought, and is the commonest specifically treatable and potentially curable form of hypertension. Ongoing studies are aimed at determining genetic bases for primary aldosteronism, examining non-blood pressure dependent effects of aldosterone excess, improving methods of detection, diagnostic workup and management of primary aldosteronism and exploring the pathogenesis and genetics of other salt sensitive forms of hypertension, including familial hyperkalemic hypertension.



Dr Clair Sullivan

Dr Sullivan graduated with Honours in Medicine from the University of Queensland and has extensive clinical experience in Endocrinology in Australia and the UK. She completed a Research Doctorate in Medicine (UK) at The General Infirmary at the University of Leeds. She maintains several national and international collaborations and research interests. She has received several large grants including a prestigious Pfizer CVL fellowship. Dr Sullivan is currently a senior staff specialist in Endocrinology and the Deputy Chair of Medicine at the Princess Alexandra Hospital. She is a co-Director of the Collaboration for Emergency Admission Research and Reform (CLEAR) which has received a large project grant from the Queensland Department of Health. She has an active interest in the metrics, management and improving the quality of hospital care, health informatics and analytics. Dr Sullivan continues to publish pioneering health systems research, presenting her work at national and international meetings and directly translating her work into improved patient outcomes.

Chairs and Speakers



Ms Bernadette Thomson

Ms Thomson is the acting Nursing Director Education for PAH/QEII network and MSHHS. She has experience in nurse education in the vocational, tertiary and clinical areas. Ms Thomson's interest areas are leadership, interprofessional education and building the capacity of nurses to support the learning of others. Ms Thomson is a member of the Australian College of Nursing and the Australian Nurse Teachers Society.



Mr Scott Tyler

Mr Tyler is the Graduate Nurse Coordinator for Princess Alexandra Hospital and QEII Hospital in Metro South Health and is in his 20th year of nursing. Mr Tyler has a keen interest in the development of the novice nurse practitioners and has predominately worked in this field during his 15 years at Princess Alexandra Hospital. He has a strong interest in Interdisciplinary Clinical Supervision education and recently completed a national Fellowship through Health Workforce Australia (HWA) in this field. Mr Tyler is presenting an overview of a body of work in conjunction with Mr Karl Winckel about pharmacist education and training at Princess Alexandra Hospital - the Pharmacy Intern Shadowing Nursing initiative in which newly commenced intern Pharmacists learn from senior clinical nurses in the clinical units.



Dr Ian Vela

Dr Vela is an early career researcher at the APCRC-Q and Consultant Urologist at the Princess Alexandra Hospital with subspecialty training in Urologic Oncology. Dr Vela has a molecular and cellular biology research background and was awarded his PhD from the University of Queensland in 2010 in the field of metastatic prostate cancer. Dr Vela completed his training in Urology being awarded FRACS Urology in 2012 and was then selected for a two year Society of Urologic Oncology (SUO) Fellowship at the prestigious Memorial Sloan-Kettering Cancer Center in New York. During this fellowship, Dr Vela was instrumental in developing together with Dr Charles Sawyers, Dr Brett Carver, Dr Yu Chen, and Dr Howard Scher at MSKCC, and Dr Hans Clevers of the Hubrecht Institute in the Netherlands, cutting edge "organoid" culture technology, allowing in vitro culture of metastatic prostate cancer tissue and circulating

prostate cancer tumour cells (CTCs). This has allowed development of multiple new metastatic prostate cancer cell lines. This fellowship also provided Dr Vela with extensive clinical training in advanced open, minimally invasive, endoscopic and robotic Urologic Oncology. Dr Vela has previously co-supervised successful PhD students in the field of prostate cancer and is current co-supervisor to a, clinician/scientist PhD student and two Masters by Research students. Active areas of research currently include precision medicine and circulating tumor cells in advanced prostate cancer.



Professor Bala Venkatesh

Professor Venkatesh is a Professor of Intensive Care Medicine at the University of Queensland, Honorary Professor at the University of Sydney, a Pre-Eminent specialist in Intensive Care Medicine at the Princess Alexandra Hospital and Deputy Director of Intensive Care Medicine at the Wesley Hospital. He is also the President for the College of Intensive Care Medicine (ANZ). He is the Principal Investigator of the NHMRC funded multi-center international ADRENAL trial and his research interests include glucocorticoid physiology in critical illness including the development of the idea of the "sick euadrenal state", sepsis and vitamin D in critical illness. He also pioneered the development of a continuous blood gas monitoring system.

Chairs and Speakers



Ms Gabrielle Vilic

Ms Vilic joined Metro South Addiction and Mental Health Services as the Director for Social Inclusion and Recovery in 2013.

Ms Vilic has worked in mental health for over 19 years, in both the government and non-government sectors, and has won a number of statewide awards for her achievements in the area of mental health. She was the consumer representative for the Queensland Mental Health Commission in 2011 and has also worked within the Metro South Alcohol and Other Drug Branch in senior project officer roles.

Ms Vilic has also worked as a consumer consultant for the Gold Coast Mental Health Service and provided consumer input in all aspects of the service's planning, delivery and evaluation, and assists in improving the service's response to consumer needs. She was also involved in coordinating the implementation of the Mental Illness Education Program into Queensland secondary schools. The program focused on positive lifestyle choices, self-awareness, and early recognition and intervention for potential mental health problems.

Ms Vilic's areas of interest include the consumer and carer workforce, research, reduction of seclusion and restraint, and metabolic monitoring.



Dr Michael Wagels

Dr Wagels is a staff specialist plastic and reconstructive surgeon at the Princess Alexandra Hospital. He undertook surgical training in Adelaide, Brisbane and Perth and was awarded FRACS in plastic and reconstructive surgery in 2012. He interrupted training to undertake research and was awarded a PhD from the University of Queensland in 2013. His thesis evaluated the behaviour of auto-transplanted muscle to prevent late failures. He also completed a fellowship in hand surgery at St Vincent's Hospital in Melbourne in 2013-14.

Dr Wagels has an interest in re-animation of the upper limb in tetraplegia and brachial plexus injuries, complex lower limb reconstruction, surgery of the hand and wrist, head and neck reconstruction, melanoma and craniofacial reconstructive surgery. He is a senior lecturer at the University of Queensland and is currently supervising four research higher degree candidates and seventeen minor research projects.



Dr Rachel Walker

Dr Walker commenced her career in nursing in 1999 in the Intensive Care Unit at the Royal Brisbane and Women's Hospital. She gradually became more involved in undergraduate nursing education and was tenured as academic in the School of Nursing and Midwifery at Griffith University in 2005.

Following completion of her PhD in 2012, she was successfully awarded a Research Fellowship with the *National Health and Medical Research Council's Centre of Research Excellence* in Nursing and was based at the Princess Alexandra Hospital. In April 2015, Dr Walker commenced a joint appointment with the Division of Surgery at the PAH.

Her current research interests are focused on skin integrity (pressure injury), symptom management and knowledge translation within acute health settings.

Chairs and Speakers



Ms Rachel Weber

Ms Weber trained within the disciplines of psychology and sociology, beginning her career working in Logan in the early 90's, within the Adolescent Mediation and Family Therapy program at YFS, followed by implementing the pilot Youth Support Coordinator program, working with schools, community and government organisations to reduce homelessness and early school leaving.

She then moved to London, where she lived, worked and travelled for 14 years. Utilising the systemic approach, Ms Weber transferred her skills to focus on service improvement projects in areas such as Cancer, Diabetes, COPD, other long term conditions, childhood health and mental health. The Co-production approach was used, engaging with Clinicians and Service Users/ Carers to deliver a range of innovative programs. Key service impacts have included, delivery of enhanced cancer care pathways resulting in increased continuity of care across the cancer service continuum, resulting in decreased cancer mortality rates; enhanced delivery of the community diabetes model of care, driven by consumer feedback and engagement; and significant improvement in the coverage and prevalence of immunisation rates within the London Olympic host borough communities.



Associate Professor Richard Williams

A/Professor Williams is an orthopaedic surgeon whose practice solely focuses on disorders of the Spine. He is now approaching 20 years of private and public practice and during that time his practice has extended to diverse areas ranging from management of sporting spinal conditions with the Brisbane Broncos NRL team to the research of rare spinal tumours whereby he is a current member of a speciality group of only 20 surgeons worldwide who primarily treat rare cancers arising in the spine. Not only does he maintain a busy private practice at the Brisbane Private Hospital, he also attends the Princess Alexandra Hospital where he is currently the Director of spinal surgical services and remains very involved in the management of patients suffering spinal cord injuries, infections involving the spine, trauma to the spinal column and developmental problems including scoliosis.

Dr Williams has hosted many international spinal surgeons over 13 years who visit our service for completion of their specialist training in spinal surgery. This adds a teaching element to our practice which has been invaluable over the years. He is also an Associate Professor at the University of Queensland and is actively involved in treating undergraduate medical students. As the coordinator of the AOSpine Research Centre in Brisbane, Dr Williams hosts many visiting international surgeons from South East Asia and throughout the world every year for short term visits to the service. He is also a past President of the Queensland Branch of the Australian Orthopaedic Association and has served as the Chairman of the Orthopaedic Continuing Education Committee which is responsible for many of the CPD events available to all Orthopaedic Surgeons throughout Australia.

Dr Williams is the sole surgeon of Brispine, a practice focussing on retaining the “old fashion” model of care whereby patients are seen and treated by Dr Williams personally without preliminary contact with paramedical staff. Brispine puts patients first - we do not require extensive prior investigation or provision of radiological imaging. We organise whatever imaging is required on a case by case basis to minimise impact upon patient's convenience and travel arrangements.

The administration staff at Brispine provide outstanding and caring support to our patients and are highly trained administrative staff who are familiar with patient needs due to their experience in spinal surgical practice.

Chairs and Speakers



Dr Sarah Winch

Dr Winch is a Healthcare Ethicist and Integrity Officer employed at the School of Medicine, The University of Queensland where she teaches ethics and law to medical students and conducts research on futile treatment and compassion in healthcare. Dr Winch consults to clinicians on issues of ethical concern locally and internationally. She has published over 60 academic journal articles and book chapters and has acquitted over \$3 million in competitive research funding. In her spare time she is the CEO of Health Ethics Australia, a not for profit charity that focuses on improving death literacy for Australians and compassion safety for clinicians.

Her most recent book, *Best Death Possible: A Guide for Dying Australians* (2013) is written for a lay audience. It explains how to use our healthcare system to get the best death possible. Dr Winch was recently listed as an “Australian Activist” category “death”. This is likely to be in response to her extensive work to improve death literacy in the community via death cafes, death over dinner and the forthcoming (2016) Brisbane Death Festival in partnership with Metro Arts Queensland.



Mr Karl Winckel

Mr Winckel is a hospital pharmacist working at Princess Alexandra Hospital. He has an interest in a wide range of clinical areas including cardiology and care of the elderly, however his main interest is in education and training.

He has coordinated extended training for nurses, allied health care workers, and doctors. He has also been heavily involved in developing training programs for hospital pharmacists and intern pharmacists.

As a conjoint member of staff working at the University of Queensland, Mr Winckel is involved in teaching in a wide range of areas including cardiology, care of the elderly, mental health, dermatology and neurology.



Ms Laura Worley

Ms Worley is the acting research site co-ordinator for the Spinal Injuries Unit within the Division of Rehabilitation at the Princess Alexandra Hospital. Ms Worley is a clinical occupational therapist and has worked across acute, rehabilitation and community spinal services within Queensland and New South Wales. She is currently working with the Spinal Outreach Team (SPOT) and is interested in research within acute spinal cord injury populations.

Ms Worley has been working on Queensland data collection for the first stage of an NHMRC collaborative project with the University of Melbourne called ICED (Immediate Cooling and Emergency Decompression). This initial study aims to determine the current timing of decompression surgery in patients with cervical spinal cord injury.

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Clinical Category Junior Researcher

ENVIRONMENT FOCUSED STRUCTURAL QUALITY INDICATORS FOR THE CARE OF OLDER ED PATIENTS

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The purpose of this study was to develop a set of Structural Quality Indicators (SQIs) for the assessment of the Emergency Department (ED) Environment in relation to the care of older persons in ED.

Method:

A systematic approach to QI development was undertaken including a review of the literature and data collection across eight Australian EDs, and a consultative process engaging relevant clinical and research experts in the care of older people. New QIs were drafted for discussion with an advisory panel. These indicators were field tested, and following analysis of data, a refined set of QIs were presented at a second advisory panel meeting. Following modification by the panel, a formal voting process occurred for selection of the QIs which were most appropriate for the evaluation of the ED environment and its readiness to support the care of older persons.

Results:

A total of five SQIs were approved for this set. These Environment focused SQIs target: the provision of a quiet area in the ED for older persons at end of life; appropriate mattresses for pressure distribution; appropriate oral fluids (for people with impaired swallowing) and food options (for people with difficulty chewing) available in ED; and ensuring call systems are operating and within reach of an older person in bed.

Conclusion:

The range of availability of these key elements in the ED across the eight sites indicates that there is an opportunity to improve preparedness for older persons in the ED by attending to these SQIs.

IMPROVING THE QUALITY OF BOWEL PREPARATION PRIOR TO COLONOSCOPY

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Background:

Poor bowel preparation (BP) precludes adequate visualisation of the colon and is associated with reduced adenoma detection in the right side of the colon. Therefore, the quality of BP is critical for quality of the procedure. In addition, repeat procedures due to poor BP put strain on available resources.

Aims:

As part of our routine quality improvement program, we conducted an audit on the quality of BP and a post intervention assessment to determine the impact of the two corrective methods implemented.

Methods:

Data was extracted from ProVation/ESISS regarding the quality of BP.

The baseline audit was for the period of July to December 2013. For assessment of the effectiveness of the interventions, data was extracted from August 2014 to October 2014 and November 2014 to May 2015.

Results:

The initial audit revealed an incidence of 15.8% of poor BP amongst morning patients on non-split prep, compared with an incidence of 8.6% in afternoon (split prep) patients. The recommendation was to implement split prep for morning patients, as well as a review of education material. The poor BP incidence amongst morning patients was reduced to 9.2% ($p=0.01174$) following the roll-out of split prep and subsequently to 6.2% ($p=0.01208$) following the redesign of education material.

Conclusion:

Our data demonstrates an improvement in the quality of bowel preparation after implementation of split BP for morning cohort patients and a redesign of BP education material. It is conservatively estimated that the resultant reduction in repeat procedures will deliver an annual cost saving of \$100,000.

Clinical Category

Student

PREDICTING THE NEED FOR ADAPTIVE RADIOTHERAPY IN HEAD AND NECK CANCER PATIENTS

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Background:

Head and neck cancer patients can experience considerable anatomical change throughout chemoradiation. Anatomical changes can be attributed to factors including tumour and nodal volume shrinkage, changes in tumour position and weight loss. This can have a detrimental effect on the planned radiation dose resulting in under or over dosing of tumour volumes and critical structures. Adaptive radiotherapy (ART) can account for this through the generation of a second plan (replan) during treatment, however it is a resource intensive process. Consequently, it is imperative that patients likely to require ART are identified. The purpose of this study was to find predictive factors that identify oropharyngeal squamous cell carcinoma (OPC) and nasopharyngeal carcinoma (NPC) patients more likely to need ART.

Methods:

One hundred and ten patients with OPC or NPC were analysed. Patient demographics and tumour characteristics were compared between patients who were replanned and those that were not. Factors found to be significant were included in logistic regression models. Risk profiles were developed from these models.

Results:

Nodal disease stage, pre-treatment largest involved node size, diagnosis and initial weight (categorised in 2 groups) were identified as significant for inclusion in the model. Two models were found to be significant ($p=0.001$), correctly classifying 98.2% and 96.1% of patients respectively. Three ART risk profiles were developed.

Conclusion:

Predictive factors and risk profiles identifying OPC or NPC patients more likely to require ART could facilitate the effective implementation of ART into radiotherapy departments through a forward planning approach and appropriate resource allocation.

FUNCTION IN ADULTS WITH GROWTH HORMONE DEFICIENCY

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Introduction:

The anaerobic energy system initiates all physical activity and subserves many aspects of physical function of daily living. Anaerobic and physical capacities are reduced in GH deficient (GHD) adults (1).

Aim:

To investigate whether GH improves anaerobic capacity, physical function and quality of life (QoL) in GHD adults.

Study design:

1-month double-blind placebo-controlled crossover GH (0.5mg/day) study followed by a 6-month open phase (n=18).

Assessments:

Wingate test (Anaerobic capacity), VO₂max test (aerobic capacity), stair-climb test, chair-stand test, 7-day pedometry and QoL questionnaire. Between and within treatment effects were analyzed by repeated-measures ANOVA and one tailed t-test.

Results:

GH treatment normalized IGF-I concentration. Compared to placebo, GH treatment for 1 month did not affect any outcome measure (table). GH treatment for 6 months significantly increased anaerobic power, chair-stand repetitions, daily step count, QoL scores, stair-climb duration but not VO₂max compared to baseline.

Table:

Changes in outcome measures after 1 and 6 months of GH replacement from baseline

	Wingate Watts	VO ₂ max L/min	Stair-Climb Seconds	Chair-Stand Number	Pedometry Steps/d	QoL Scores
1 month	3.4±8.7	0.07±0.0	-2.4±1.2	2.2±0.8	-270±273	-3.5±1.4
6 months	15.4±8.7*	0.01±0.1	-0.8±0.3	6.1±1.2*	1169±659*	-6.9±1.8*

*p<0.05 compared to 1-month placebo

Summary:

1-month of GH replacement was ineffective. 6-months replacement improved Wingate and chair-stand performance, daily step counts and QoL but not VO₂max in GHD adults.

Conclusion:

GH replacement improves anaerobic capacity, physical function and QoL in a time-dependent manner in GHD adults. Improvement in anaerobic but not aerobic energy system is associated with improvement in physical function and QoL.

Supported by the Princess Alexandra Research Support Scheme and Novo Nordisk Australia.

1. Chikani V et al. J Clin Endocrinol Metab, 2015, 100(5):1811–1818

Basic Science Category

Junior Researcher

A LARGE SCALE ASSOCIATION ANALYSIS OF MIRSINPS WITH PROSTATE CANCER

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Single nucleotide polymorphisms (SNPs) within a microRNA (miRNA) binding sites of its target gene, referred to as miRSNPs, are known to have functional consequences for cancer risk. We investigated the association between 2,169 putative miRSNPs and prostate cancer risk in a large population including 22,301 cases and 22,320 controls of European ancestry from 23 participating studies within the largest prostate cancer (PRACTICAL) Consortium. We identified 22 SNPs to be associated with risk of prostate cancer, seven of which has not been previously reported by GWAS studies. We compared the expression levels of the 16 genes harbouring 22 significant miRSNPs and found the expression of 7 genes to be deregulated in prostate cancer in a previously published dataset of 59 tumour and 28 non-tumour samples. We then validated the functional role of KLK3 rs1058205 (T>C) and MDM4 rs4245739 SNP (A>G) SNPs. We showed that miR-3162-5p has specific affinity for the KLK3 rs1058205 SNP T-allele. As KLK3 has been shown to induce anti-angiogenic effects limiting prostate cancer growth, decreased KLK3 expression induced by miR-3162-5p targeting of the T-allele represents a mechanism by which the T-allele may be associated with increased prostate cancer risk. We also found miR-191-5p and miR-887 downregulated MDM4 protein expression in C-allele containing PC3 cells but not in LNCaP cells homozygous for the A-allele. Both miRNAs also induced a decrease in metabolic activity in PC3 cells. This study is the first to demonstrate regulation of the MDM4 rs4245739 SNP C-allele by two miRNAs presenting a mechanism by which the un-targeted A-allele of the MDM4 rs4245739 SNP may be associated with increased prostate cancer risk.

Findings from this large study provide evidence that an association study using comprehensive functional SNP approach such as miRSNP can identify disease associated functional risk loci.

TOWARD A BLOOD TEST FOR OESOPHAGEAL ADENOCARCINOMA: IDENTIFICATION OF SERUM DIAGNOSTIC GLYCOPROTEIN BIOMARKER CANDIDATES

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While the incidence of most cancers are now steadying or declining, oesophageal adenocarcinoma (EAC) continues an upward trend. The rapid increase in EAC is likely attributed to the increased prevalence of risk factors of obesity and gastro-esophageal reflux. The precursor condition, Barrett's esophagus (BE), affects 0.2-2% of the population and increases EAC risk 25-100 fold. However, due to the low conversion rate of BE to EAC, studies indicate that current endoscopic screening programs may not be beneficial. Altogether, majority of EAC cases are diagnosed at very late stages hence <20% of the patients survive 5 year post-diagnosis. Our goal is to develop blood biomarker panels that can be used to screen at-risk patients, with positive results triggering follow-on endoscopic screening.

Young Investigator Award Abstract Finalists

We focused on alterations in circulatory protein glycosylation, using a panel of 20 lectins to enrich serum glycoproteins based on glycan structures. Serum samples from healthy, BE and EAC patients were analysed by lectin magnetic bead array (LeMBA)-coupled discovery proteomics for biomarker discovery (n=29), followed by targeted proteomics for biomarker verification (n=80). Data analysis was performed using customized database and analysis packages “GlycoSelector” for biomarker discovery and “Shiny mixOmics” for biomarker verification.

We have identified a ranked list of glycoprotein biomarker candidates that distinguish a) EAC from BE and b) EAC from healthy phenotypes. A multivariate panel achieved area under the receiver operating curve (AUROC) over 0.90, indicative of high diagnostic value. Continuing work will evaluate clinical performance of the EAC biomarker panel in a large independent patient cohort.

Basic Science Category

Student

NKT CELL-DRIVEN THERAPY WITH AGONISTIC ANTI-4-1BB ANTIBODY INDUCES POTENT ANTI-TUMOR IMMUNITY AGAINST B CELL LYMPHOMA

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Boosting anti-tumor immunity is essential for curing poorly immunogenic and immune suppressive cancers. Our goal was to enhance anti-tumor immunity against B cell lymphomas by developing combination immunotherapy incorporating natural killer T (NKT) cell vaccination with immune stimulatory molecules. In the Eμ-myc transgenic mouse lymphoma model, single therapeutic vaccination was sufficient to significantly inhibit growth of established tumors and prolong survival. Vaccination increased the expression of a co-stimulatory immune molecule 4-1BB (CD137) on activated CD8 T cells providing rationale for combining the vaccine with an agonistic monoclonal antibody (mAb) targeting 4-1BB. We observed a potent synergy with vaccine + anti-4-1BB mAb treatment combination resulting in significantly enhanced survival of mice harbouring Eμ-myc tumors, including durable complete responses in over 50% of mice and potent anti-tumor immunological memory formation. Elimination of lymphoma was associated with increased numbers and persistence of KLRG1+ CD8 T cell effector subsets upon combination treatment. Overall, our results demonstrate a powerful immune adjuvant effect of an NKT cell ligand in therapeutic anti-cancer vaccination against B cell lymphomas, which can be boosted by a monoclonal antibody targeting the immune stimulatory molecule 4-1BB in CD8 T cells. Outcomes from assessing the therapeutic benefit of this immunotherapeutic strategy in pre-clinical mouse models will provide the evidence for future clinical studies in patients with treatment-resistant B cell lymphomas and other haematological malignancies.

HUMAN SOLUBLE RECEPTOR FOR ADVANCED GLYCATION END PRODUCTS THERAPY REDUCES AUTOIMMUNE DIABETES IN THE NON-OBESE DIABETIC MOUSE

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Background:

Type 1 diabetes (T1D) is rising in incidence worldwide, which might be due to environmental factors that promote the accumulation of circulating advanced glycation end products (AGEs). AGEs bind to their receptor, receptor for AGEs (RAGE). Both circulating AGE levels and RAGE expression are altered in children prior to T1D diagnosis.

Young Investigator Award Abstract Finalists

Aims:

This study aimed to deliver recombinant human soluble RAGE (sRAGE), a decoy RAGE isoform, to reduce RAGE signalling prediabetes in the non-obese diabetic (NOD) mouse.

Methods:

Female NOD mice were intraperitoneally injected twice daily with recombinant human sRAGE (25 µg) or vehicle (PBS) from days 50-64 of life. Mice were followed until 0 (n=6), 2 (n=14) or 22 weeks (n=15) post-treatment.

Results:

Human sRAGE therapy protected mice from diabetes up to day 225 of life compared to mice given the vehicle (13% vs 53%; $p=0.01$). While the non-fasted blood glucose concentrations of vehicle mice progressively increased from day 50-225, sRAGE mice did not experience an increase (slope non-zero vs zero; $p<0.0001$). Furthermore, sRAGE treatment lowered fasted blood glucose levels at day 225 (6.5 vs 7.8 mmol/L; $p=0.0007$). Splenic flow cytometry at day 64 demonstrated an increase in classical (F4/80+CD11c-Ly6C+; 2-fold; $p=0.04$) and non-classical macrophages (F4/80+CD11c-Ly6C-; 1.9-fold; $p=0.02$), and CD11b+CD11c+CD8-RAGE+ dendritic cells (2.7-fold; $p=0.008$). At day 225, sRAGE mice had reduced total CD8+ T cells (1.4-fold; $p=0.04$) and naïve CD8+ T cells (CD62L+CD44-; 1.6-fold; $p=0.01$) in the spleen.

Conclusions:

These results demonstrate that human sRAGE therapy protects against autoimmune diabetes, improves glycaemic control and alters systemic leukocyte numbers.

1 A SYSTEMATIC REVIEW OF TELEMEDICINE SERVICES INITIATIVES IN HOSPITALS FACILITIES INCORPORATING EVALUATION STRATEGIES

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Background:

The adoption of telemedicine in mainstream health services has been much slower than expected. Many telemedicine projects tend not to progress beyond the trial phase. This issue has been noted since 1999 and continues to be discussed in the contemporary literature today. A literature review was conducted to identify peer-reviewed publications of deployed telemedicine services in hospital facilities; and to appraise, the methodology used to evaluate these services.

Methods:

Computerised literature searches of bibliographic databases were performed using the MeSH terms for “Telemedicine” and “Hospital Services” for papers published up to October 2013.

Results:

A total of 117 papers were identified, representing 101 telemedicine services. The majority of reported telemedicine services were based in the United States of America (n=44, 43.5%). Around two thirds of the services (n=66, 65.3%) were delivered using videoconferencing. Of the reviewed studies, more than half (n=61, 52.1%) assessed their services from three different evaluation measures: clinical outcomes, economics and satisfaction. The remaining studies (n=56, 47.8%) described their service and its activities without reporting any evaluation measures. Only 22 (18.8%) studies indicated a two-step evaluation and implementation process.

Conclusion:

Given that 101 telemedicine services have been reported in this review, either telemedicine service implementation is still not a part of mainstream clinical service and therefore might indicate that the full potential of telemedicine has not yet been realised, or it is not being reported. The key component of planning was not significantly reported in these studies. Studies applying and reporting more rigorous methodology are needed.

2 SHOULD ALDOSTERONE SUPPRESSION TESTS BE CONDUCTED DURING A PARTICULAR PHASE OF THE MENSTRUAL CYCLE, AND, IF SO, WHICH PHASE? RESULTS OF A PRELIMINARY STUDY

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Background:

Since renin and aldosterone levels vary during the menstrual cycle, and are critical criteria for interpretation of aldosterone suppression tests to confirm or exclude primary aldosteronism, outcome of testing may vary depending on the menstrual cycle phase. We assessed the effect of timing within the menstrual cycle on levels of renin, aldosterone and female sex steroids during fludrocortisone suppression testing (FST).

Methods:

In 22 women undergoing FST who experienced regular menstrual cycles, renin (measured as both plasma renin activity and direct renin concentration), aldosterone (mass spectrometry) and cortisol, progesterone, estradiol, LH and FSH (immunoassay) levels were compared, relative to phase of cycle. Aldosterone levels were compared to those in age-matched males undergoing FST.

Results:

Progesterone ($p<0.0001$) and aldosterone ($p=0.006$) levels were higher in nine women (after one of 10 was excluded with anovulatory cycle) studied during the luteal phase than in 12 studied during the follicular phase. All studied during the luteal phase had positive FST and all three with negative FST were studied during the follicular phase. There were no significant differences in other parameters measured except FSH, which was higher ($p=0.02$) during the follicular phase. Aldosterone was higher ($p=0.01$) in women studied in the luteal (but not follicular) phase compared to men.

Conclusion:

The menstrual cycle may affect the outcome of FST and other suppression testing used to diagnose primary aldosteronism. Larger patient numbers and preferably restudy of the same patient in both phases should clarify this, and determine the optimum time in the cycle for testing.

3 INCREASING OPPORTUNISTIC VACCINATION UTILISING HEALTHCARE WORKER INFLUENZA CAMPAIGN

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Outbreaks of vaccine preventable disease (VPD) are costly, time consuming and utilise large amounts of Infection Control (IC) resources. Princess Alexandra Hospital (PAH) has had five (5) episodes of measles and eight (8) episodes of Varicella Zoster Virus (VzV) requiring contact tracing over the last three years. Despite education and vaccination campaigns staff continue to identify as being unvaccinated or unaware of their immune status during outbreak investigation. Utilising the broad reach of the annual HCW Influenza campaign it was anticipated that many of these staff may be identified.

Influenza vaccination is widely advertised and resourced to HCWs within the PAH with an average administration of 3800 to 4100 vaccines annually. Incorporating additional opportunistic data collection on Varicella and Measles engaged the influenza vaccine attendees to consider their immunity to VPD. Thus providing the opportunity for IC staff to refer HCWs for serology or vaccination. A staff vaccine clinic business card with the VPD identified, clinic location and time was given to the HCW to follow up. This activity took very little extra time in the influenza consent process.

This initiative saw an increase in the number of staff attending the weekly IC vaccination clinic for VzV serology and Measles vaccination during and after the influenza campaign. The majority of staff who identified as being unsure of VzV history were immune on serology and did not require further intervention. Fifty percent of non-immune VzV staff declined vaccination citing cost as prohibitive. Free Measles vaccination uptake increased due to Measles in the community and the vaccine being free of cost.

Utilising the Influenza vaccination consent form to identify HCW immunity to VPD and promoting the staff vaccine clinic was an effective strategy to increase HCW immunity and awareness of VPD immunity status.

4 WAY FORWARD: AN INDIGENOUS APPROACH TO WELLBEING

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Aboriginal and Torres Strait Islander people with mental illness continue to be over-represented within mental health, alcohol and other drugs (MHAOD) services. In an effort to respond to these community members' needs in meaningful and culturally sensitive ways, Metro South and Metro North Hospital and Health Services (HHSs) sought funding from the Aboriginal and Torres Strait Islander Health Unit to identify, develop and implement an enhanced model of MHAOD care.

The *Way Forward: An Indigenous Approach to Wellbeing project* is an innovative, strengths-focused, Indigenous approach to improving MHAOD outcomes for Aboriginal and Torres Strait Islander community members in these HHSs.

An extensive research and stakeholder engagement phase in stage one of the project revealed three key priorities for action:

1. Develop clear and consistent governance and supervision arrangements for the Indigenous MHAOD workforce.
2. Increase the cultural capability of non-Indigenous MHAOD clinicians.
3. Improve consumer access to services through working in partnerships with community controlled health services.

Utilising a strengths-based approach in addressing these three priorities, the project team are focussing on workforce redesign activities aimed at strengthening the Indigenous MHAOD workforce and broader MHAOD service system.

Pilot projects around cultural mentoring and trialling a new clinical pathway in collaboration with community controlled health organisations are in development.

Preliminary findings will be collected and analysed to further inform these processes with the anticipated outcome being an improved model MHAOD care for Aboriginal and Torres Strait Islander community members in Metro North and Metro South HHS, delivered by a skilled and sustainable workforce.

5 SUSTAINED EXPOSURE TO TNF- α AND IL-1 β INCREASES THE INVASION, ADHESION AND PROLIFERATIVE POTENTIAL OF A NORMAL BRONCHIAL EPITHELIAL CELL LINE

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Aims:

Hypoxia and chronic inflammation are key triggers in the transformation process with at least 20% of all malignancies initiated or exacerbated by inflammation. The aim of this study was to examine inflammation as a contributory factor in non-small cell lung cancer (NSCLC) carcinogenesis, concentrating primarily on the pathological involvement of the pro-inflammatory cytokines, TNF- α /IL-1 β , and hypoxia.

Methods:

A normal bronchial epithelial cell line was modified to stably and functionally over-express TNF- α and IL-1 β (alone or in combination). Cells were cultured continuously for three months under normoxic and hypoxic conditions. Functional assays were performed to assess cellular change: transformation assay (soft agar), proliferation (BrdU ELISA), invasion (matrigel), adhesion (FACS) and angiogenesis (endothelial tube formation). Gene expression alterations were evaluated using qPCR Cancer PathwayFinder arrays.

Results:

Important cellular features such as the proliferative, adhesive and invasive capacity of the normal cells were significantly amplified. Differences were also detected in the gene expression profile implicated in pathways involved in the hallmarks of cancer such as apoptosis, angiogenesis and invasion.

Conclusion:

The data generated in this study provides support that TNF- α , IL-1 β and hypoxia promotes a neoplastic phenotype in normal bronchial epithelial cells. In turn these mediators may be of benefit for biomarker and/or immune-therapy target studies. This project provides an important inflammatory in vitro model for further immunology studies in the lung cancer setting.

6 SELF-TOLERANT CD8+ T CELLS ARE TRANSCRIPTIONALLY DISTINCT FROM 'EXHAUSTED' T CELLS

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Introduction:

CD8+ T cell tolerance is essential for preventing autoimmunity and poses substantial impediment to eliciting immune responses to tumor antigens. Despite recent progress in understanding tolerance mechanism, there are still knowledge gaps for the molecular basis of the induction and maintenance of peripheral tolerance.

Aim:

To determine the mechanism of functional inactivation or tolerance in CD8+ T cell by investigating differential expression of specific genes compare to naive CD8 T cell.

Materials and Methods:

To understand the mechanism of tolerance, naive OVA-specific TCR transgenic CD8+ T cells (OT-I) were transferred to 11c.OVA mice in which dendritic cells tolerogenically express ovalbumin (OVA) as a model of peripheral self-tolerance. Total mRNA was isolated (Quiagen RNeasy) from recovered OT-I T cells during (day2 and day 10) or after tolerance induction (days 28) following transfer to 11c.OVA mice and processed with control cells and hybridised to the illumina 48K mouse ref-6 v2.0 expression chip.

Results:

K-means clustering revealed upregulation of cell cycle and negative regulation of nucleotide biosynthesis process related genes at early (day 2) before cell become tolerant (day 28). Gene-set enrichment analysis (GSEA) for genes differentially expressed in tolerant cells was distinct from 'exhausted' CD8+ T cells and surprisingly shared a profile closer to Treg. Distinct transcription factor profiles were present in self-tolerance CD8+ T cells and these emerged early (by day 10) during tolerance induction.

Conclusions:

These results provide insight into the mechanisms of self-reactive CD8+ T cell inactivation and reveal a transcriptional signature that might identify self-tolerant T cells.

7 SHORT TERM RAPAMYCIN TREATMENT PERMITS ANTIGEN-ENCODING BONE MARROW ENGRAFTMENT AND TOLERANCE INDUCTION IN MICE UNDER IMMUNE-PRESERVING CONDITIONING

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Introduction:

Incorporation of gene therapy with bone marrow (BM) or hematopoietic stem cell transplantation to drive tolerogenic expression of antigen(s) is a promising strategy for tolerance induction. Targeting tolerogenic antigen to diverse antigen-presenting cell (APC) type's purges autoreactive CD8+ T cell faster than targeting dendritic cells alone. However, diverse or ubiquitous expression of antigen leads to immune-targeting and rejection of transferred BM under immune-preserving conditioning.

Aim:

Achieve antigen-encoding BM engraftment under immune preserving conditioning.

Materials and Methods: BM (10 x 10⁶ cells) isolated from non-transgenic and transgenic mice were transferred to recipient mice under immune preserving conditioning (300cGy). Rapamycin (0.6mg/kg) intraperitoneally injected for first 3 weeks after BM transferred. Engraftment was checked in peripheral blood, spleen and bone marrow by flow cytometry.

Results:

Short-term treatment with the immunosuppressant rapamycin enables permanent engraftment of BM that expresses antigen either in diverse APC types or ubiquitously and this leads to a robust and long-lasting (>6 months) state of tolerance to the expressed antigen. Transient rapamycin treatment suppresses development of effector T cell responses to BM-encoded antigen, which would otherwise reject the transferred BM. Paradoxically, it was found that despite rejection of donor antigen-encoding BM, a transient state of encoded antigen-specific unresponsiveness which eventually wanes was induced by BM transfer, possibly through induction of activation-induced cell death in recipient antigen-specific T cells.

Conclusions:

These findings indicate that choice of promoters for expression of BM-encoded antigens can be diversified by inclusion of transient immunosuppression when antigen-encoding BM is transferred under immune-preserving conditions.

8 IDENTIFICATION OF A NOVEL BIOMARKER FOR OVARIAN CANCER

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Ovarian cancer is the seventh most common cancer in women, however, because it is often initially devoid of symptoms, is diagnosed at a late stage of malignancy leading to a high mortality rate. The 5-year survival rate ranges from a poor 30-50%. Decreasing the survival rate further is increased incidents of therapy-resistance, thought to be a result of dysfunctional DNA repair. We therefore used several bioinformatics approaches to identify genes dysregulated in High Grade Serous Ovarian Cancer. The protein-coding gene EXOSC4 was discovered to be hypomethylated and overexpressed in 33% of the TCGA Ovarian cancer cell line. We hypothesise that EXOSC4 is a biomarker of High Grade Serous Ovarian cancer and therapy resistance. Western blotting confirmed the results of Bioinformatic analysis and, using knockdown and overexpression of Exosc4 we are investigating the role of Exosc4 in tumorigenesis and cancer. Moreover, we surprisingly found a role of Exosc4 during the DNA damage response.

9 DEFECTS IN IL-2 SIGNALLING IN TYPE 1 DIABETES SUSCEPTIBLE MICE

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Type 1 diabetes (T1D) is a chronic autoimmune disorder characterised by the destruction of insulin producing pancreatic β cells. Regulatory T cells (Tregs) play a crucial role in the integrity of the immune system and are believed to be defective in T1D. Therefore, restoring Tregs function is of much interest in the context of therapeutic strategies and T1D prevention. However, the mechanisms of Tregs defects in T1D are not fully understood. Tregs function is controlled by the interleukin-2 (IL-2) pathway, which is associated with susceptibility to T1D in humans and mice. We have used the nonobese diabetic mouse (NOD) model of T1D to evaluate Tregs defects controlled by the IL-2 pathway. A reduction in Tregs frequency was observed in the lymph nodes of NOD compared with protected B6 mice. In contrast, in spleen and blood the expansion of effector phenotype Tregs was noted. This suggests possible tissue specific differences in responses to IL-2 stimulation. To investigate this, STAT5 phosphorylation was measured following IL-2 stimulation. We observed a reduction in pSTAT5+ Tregs frequency in NOD mice compared to C57/BL6 mice in both spleen and lymph nodes. This was consistent with the reduced expression of CD25 in NOD mice in both tissues. In summary, pSTAT5 signalling, which is directly related to IL-2 binding to CD25 is reduced in all NOD Tregs. Further studies are investigating why NOD mice have a specific defect in lymph node Tregs in vivo.

10 COLLABORATION, CONSULTATION-LIAISON AND THE CAPE-P15. A WAY TO DO HEALTH DIFFERENTLY. PART 1

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Background:

Psychotic-like experiences (PLEs) are common in the general population and associated with poorer mental health outcomes. Young people with PLEs are much more likely to be psychologically distressed, suffer from mental disorders such as anxiety or depression, and are at greater risk of cannabis misuse, self-injury and suicidal behaviours. Having a tool that will improve early detection of young people at risk of psychotic illness, facilitate access to age-appropriate assessment between primary care and tertiary health services and develop capacity, capabilities and skills of staff working from primary care to tertiary services is warranted.

Method:

Two large cross-sectional surveys of university students (N=1610 & N=489) were completed to determine if the Community Assessment of Psychic Experiences – positive scale (CAPE-P15) was psychometrically robust and a meaningful measure for screening PLEs. The CAPE-P15 was then implemented into local *headspace* services to support the identification of high risk high youth (score on CAPE-P15 \leq 90th percentile) that required a further comprehensive clinical assessment.

Results:

Implementation of the CAPE-P15 into local *headspace* services have resulted in the early detection and assessment of several young people with PLEs. Thirty percent of those have been followed up by tertiary services. *headspace* staff, through shared discussions and training, have become more aware of the association between PLEs and suicidal risk and now proactively complete further risk assessments. The CAPE-P15 tool has been an intervention in itself with young people reporting a decrease in psychological distress associated with their PLEs.

Conclusion:

Working collaboratively between primary care and tertiary services can improve the detection, interventions and as well as enhance skills and service capabilities across a continuation of care.

Papers associated with this study:

1. Capra, C., Kavanagh, D. J., Hides, L., & Scott, J. (2013). Brief screening for psychosis-like experiences. *Schizophrenia Research*, 149, 104-107.
2. Capra, C., Kavanagh, D. J., Hides, L., & Scott, J. (2015). Subtypes of psychotic-like experiences are differentially associated with suicide risk. *In Press for Psychiatry Research*.
3. Capra, C., Kavanagh, D. J., Hides, L., & Scott, J. (2015). The Current CAPE-15: A measure of recent psychotic-like experiences and associated distress. *In Press for Early Intervention in Psychiatry*.

11 COLLABORATION, CONSULTATION-LIAISON AND FOOD AND MOOD. A WAY TO DO HEALTH DIFFERENTLY. PART 2

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Background:

Targeted interventions for youth with mental health and related dietary issues can reduce nutrition-related side effects of medications, improve cognition, increase self-management of concurrent and comorbid conditions,

and improve overall occupational, social, and psychological functioning. The Early Psychosis (EP) group (aged 16-25) who commence atypical antipsychotic medications have shown a more rapid weight gain than that found in the general population. More interdisciplinary care and identification of nutrition-related side effects of psychiatric medications is needed in youth mental health. consumers who have mental health conditions.

Method:

A pilot placement was developed between UQ postgraduate Dietetics students, PAH EP team and Woolloongabba headspace where young people can access support for managing nutrition-related behaviours. These encompassed: overweight or obesity, weight management (challenges with medications causing weight gain), irregular eating patterns, financial assistance and meal planning/ budgeting, bowel discomfort and type 2 diabetes. Students completed pre and post vignettes exploring their perceptions of mental illness and how to engage, assess and provide suitable interventions to young people with mental illness.

Results:

Since April 2015 a weekly clinic of dietetics students has assessed 36 young people - with 90% engaging and returning for review appointments. Evidence suggests improvements to meal planning, regularity of meals, changes in snack and food options and a greater awareness of what is in foods and portion sizes. Dietetics students reported increased confidence in their engagement and counselling skills with young people.

Conclusions:

There is a need to offer clinical placements that build confidence and capacity that are interprofessional and cross sectoral. This pilot program has demonstrated that innovation in placement organisation can improve outcomes for students' learning and engagement in non- typical health fields, as well as the positive outcomes for young people with mental health issues.

12 INDUCTION OF ANTIGEN SPECIFIC CYTOTOXIC T CELLS IN RESPONSE TO STERILE INJURY IS INHIBITED BY LIPOPOLYSACCHARIDE

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Induced inflammation enhances immunity to co-delivered antigen. Heat applied briefly to the skin invokes sterile inflammation, which is characterised by local cell death and inflammasomes/caspase-1 activation without disrupting skin integrity. Co-delivery of endotoxin free ovalbumin antigen with heat induces IFN-gamma biased CD8 T cell effector response which can be abrogated by co-administration of lipopolysaccharide. The combination of heat injury, ovalbumin and LPS co-delivered to skin induces local IL-10, IL-17 and IL-1 β , and enhanced anti-OVA antibody responses with diminished CD8 T cell responses. We conclude that inflammation characterized by inflammasomes activation without TLR signaling induces Th1 polarized immunity to co-administered antigen, whereas addition of TLR signaling polarizes more Th2/Th17 prone responses.

13 GROWTH HORMONE REPLACEMENT IMPROVES ANAEROBIC CAPACITY AND PHYSICAL TELEREHABILITATION IN THE MANAGEMENT OF MUSCULOSKELETAL CONDITIONS IS EFFECTIVE AND COMPARABLE TO CONVENTIONAL MODES OF DELIVERY: A SYSTEMATIC REVIEW & META-ANALYSIS

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Chronic musculoskeletal conditions, of which arthritis is the most common diagnosis, is a leading cause of pain and disability throughout Australia. Whilst many of these conditions can be managed non-surgically, access to

appropriate multidisciplinary conservative management can be problematic due to environmental and social factors. These barriers may be potentially overcome if management were delivered via telerehabilitation. The aim of this review is to evaluate the clinical effectiveness of treatment delivered via telerehabilitation and to determine if telerehabilitation is comparable to conventional methods of delivery for this chronic population. Three electronic databases (Medline, CINAHL, Embase) were searched for clinical trials where treatment of any diagnosed musculoskeletal condition was delivered via 'real-time' telerehabilitation. Two authors independently screened 3113 abstracts in which ten studies with moderate-strong methodological quality met the inclusion criteria. Primary clinical outcomes varied amongst trials and included measures of pain, function, and quality of life.

Due to substantial clinical heterogeneity, a sub-group meta-analysis was performed on three clinical trials. Within-group differences significantly favoured intervention via telerehabilitation (SMD -1.46, 95%CI -1.08, -1.85, $p < 0.001$), whilst between-group differences at post-intervention were comparable for telerehabilitation and conventional treatment (SMD 0.2, 95%CI -0.13, 0.53, $p = 0.23$) in the post-operative management of total knee arthroplasty.

Trials investigating the use of 'real-time' telerehabilitation in the management of musculoskeletal conditions are scant. Limited evidence of moderate-strong quality does suggest that telerehabilitation is effective in some musculoskeletal conditions and comparable to conventional practice, however due to the lack of robust clinical trials, efficacy remains inconclusive.

14 TOWARDS A SAFE WARD - CHANGING THE WAY WE DO BUSINESS

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The Safewards model (UK) is a staff led initiative that increases engagement between clinicians and patients, increases transparency of practice, assists in team building, and addresses issues of conflict and containment in acute psychiatric inpatient units. It embodies the concept of energising and empowering both the clinician and the patient to effect positive change in inpatient unit culture and is changing the way we provide mental health care.

The acute psychiatric inpatient unit (Yugaipa) at Redland Hospital adopted the Safewards model after researching methods to improve patient outcomes, in an attempt to create a more therapeutic and safe environment that fosters recovery.

Episodes of conflict (all patient behaviours that threaten their safety and the safety of others) are prevalent in psychiatric inpatient units. The implementation of the Safewards model has been proven to reduce conflict and containment through ten specific interventions.

The effectiveness of this model lies in a 'grass roots' approach. It is the clinicians that provide direct patient care who are encouraged to implement change, to be creative and innovative in reducing conflict, to take ownership, and to be accountable for daily clinical decisions. As this model engages staff on all levels, it has helped to further develop a cohesive team that works collaboratively and promotes emerging leadership among staff.

In Yugaipa, many positive changes and results have occurred in the 8 months since the model was introduced and staff are actively involved in further implementation of the Safewards model across Metro South Addiction and Mental Health Services.

Reference:

Bowers L, (2014). Safewards: a new model of conflict and containment on psychiatric wards. *Journal of Psychiatric and Mental Health Nursing*. Vol 21, issue 6 p499

15 INFORMING AND EVALUATING AN INTERVENTION TO BUILD KNOWLEDGE TRANSLATION CAPACITY IN OCCUPATIONAL THERAPY

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Background:

Knowledge translation (KT) is a systematic and iterative approach to help implement research in clinical practice, in order to improve health care. Very little research exists about organisational initiatives designed to build KT capacity amongst clinicians in order to close research-practice gaps. A multifaceted, targeted intervention to build KT capacity in the Princess Alexandra Hospital's Occupational Therapy Department was developed.

Objectives:

Evaluate the impact of organisational initiatives for KT capacity building; and understand the barriers and enablers influencing clinicians' use of KT processes in the workplace.

Method:

A Participatory Action Research (PAR) design was used. The intervention included training in KT, mentoring, leadership and organisational strategies. Occupational therapists (n=20) completed a pre-post questionnaire (guided by the Theoretical Domains Framework) identifying barriers and enablers to the use of KT, perceptions of change over the last 12 months, and perceived usefulness of strategies supporting the use of KT processes. Wilcoxon matched-pairs signed-rank tests were performed.

Results:

The baseline questionnaire found participants had positive attitudes towards KT, however the main barriers were from the domains of: 'attention, memory and decision processes', 'knowledge', 'beliefs about capabilities', 'reinforcement', 'environmental context and resources' and 'behaviour regulation'. After the intervention, significant change was seen in 4 domains. Change in use of KT behaviours over time will also be discussed.

Conclusion:

Theoretically driven identification of barriers and enablers to the use of KT processes can inform an intervention which may support clinicians' capacity for KT in busy clinical settings.

16 THE IMPACT OF A TELEHEALTH CENTRAL COORDINATION SERVICE

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Background:

The Princess Alexandra Hospital Telehealth Centre seeks to provide a whole-of-hospital telehealth service for a range of specialities. The aim of this study was to investigate whether the introduction of a new telehealth coordination service provided by a tertiary hospital centre increased access to specialist consultation services.

Methods:

Telehealth service delivery model before and after the establishment of the centre is described as well as the project implementation. The study retrieved data related to the number and scope of previous, and current, telehealth service episodes, to ascertain any change in access following the introduction of the new telehealth coordination service.

Results:

Introduction of a new centralised telehealth coordination service was associated with an increase in the scope of telehealth from five medical disciplines, in the year before the establishment, to 34 disciplines two years after the establishment. The telehealth consultations also increases from 412 (the year before), to 735 (one year after) and 1642 (two years after) the establishment of the centre.

Conclusion:

The introduction of a centralised coordination for telehealth service of a tertiary hospital was associated with the increase in the scope and level of telehealth activity of the hospital. The project and model of health care delivery described in this paper can be adopted by tertiary hospitals to grow their telehealth activities, improve access to specialized care, and potentially reduce costs associated with the delivery of services at a distance.

17 **TELEMEDICINE FOR SPECIALIST GERIATRIC CARE IN SMALL RURAL HOSPITALS: A CASE STUDY**

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Small rural hospitals admit and manage older patients who in city hospitals would usually be offered geriatrician supported comprehensive geriatric assessment and coordinated subacute care, if required. Distance and diseconomies of scale prohibit the “ideal” service model. A telegeriatric service model, involving a geriatrician consulting remotely using wireless mobile high definition video-conferencing, a trained host nurse at the rural site, structured geriatric assessment mounted on a web-based clinical decision support system, routine weekly “rounds” and support from a local multi-disciplinary team, was established to overcome these barriers.

We conducted a prospective observational study of patient characteristics and service utilisation patterns of telegeriatrics patient in three small rural hospitals with 24, 41 and 60 available beds. Patient characteristics were recorded using the interRAI Acute Care assessment system. Utilisation patterns were derived from health service data sets and a specific service statistics database.

The patients had characteristics which are consistent with those typically referred for geriatric assessment. Overall, 53% of patients had cognitive impairment, 75% limitations with basic activities of daily living (ADL), and the average Frailty Index was 0.44 (SD 0.12). Stable patterns of referral and review occurred within six months of start up, and continued uninterrupted for the remainder of the 24 month observation period. The estimated overall rate of referral was 1.83 cases per occupied bed per year, and review 2.66 cases per occupied bed per year.

The findings indicate that the service model was feasible, and was sustained throughout and beyond the study period. This telegeriatric service model appears suitable for application to small rural hospitals.

18 **CONSOLIDATING PERIPHERAL IV CANNULATION AT METRO SOUTH HEALTH, QLD**

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Metro South Health is the largest health service in South-east Queensland serving an estimated 1 million people, 23% of Queensland's population. In 2013, Princess Alexandra Hospital (PAH) had 33 episodes of Health-care associated *Staphylococcus aureus* blood stream infection of which 14 were related to intravascular devices. Of these, close to 60% were due to peripherally inserted intravenous cannulas.

A redesign of the organisation resulted in the discontinuation of the cannulation service. This meant that the majority of peripheral cannulas would be inserted by nursing and medical staff. The implementation of National Safety and Quality Health Service Standards provided the impetus to commence a competency based program to accredit our clinical workforce who undertakes procedures related to invasive devices under aseptic technique.

In 2014, in addition to the already existing cannulation workshop provided to nursing staff, we introduced a mandatory process for incoming medical interns to undergo cannulation training and accreditation. The training focused on insertion and aseptic technique and consisted of completion of a comprehensive workbook, a simulation session and clinical assessment.

We trained a total of 140 interns in Metro South Health in 2014. Evaluation of this cohort showed retained knowledge of the process of cannulation with correct skin prep and documentation but poor compliance with the 5 Moments for Hand Hygiene and personal protective equipment usage.

After evaluating and refining this program, it has been extended to Year 3 and 4 medical students placed at the PAH from the University of Queensland in 2015.

19 FIRST REPORT OF PROBABLE NEUROBRUCELLOSIS IN AUSTRALIA **WENDY J MUNCKHOF¹, AMY V JENNISON², JOHN R BATES², IAN GASSIEP¹**

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We reported the first known Australian case of probable neurobrucellosis, in a young feral-pig shooter who presented with episodic left-sided visual loss and left-sided numbness and headache. Treatment with intravenous ceftriaxone and oral rifampicin, doxycycline and trimethoprim-sulfamethoxazole resulted in a good clinical response.

20 THE FORGOTTEN HIGH TOUCH OBJECTS **ADAMS RC¹, ALTMANN ME², HEALY SA², LINDSAY MR²**

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Background:

Assessment of environmental cleaning has become a major focus in healthcare. A variety of assessment tools are available, and one such assessment tool is fluorescent marking. At the PAH, we implemented fluorescent marking, within ward area's to monitor cleaning of high touch objects (HTO), encompassing all categories of staff. A high touch area is any object frequently touched by staff or patient within the clinical environment.

Aims:

The aims were to assess, provide feedback, and re-educate to improve HTO cleaning in ward areas to prevent transmission of healthcare associated pathogens. The wards/areas initially implemented with the fluorescent marking were based on the increased patterns of VRE transmission.

Results:

A number of hidden high touch areas were determined during this implementation/investigation stage. Examples include: underside of over the bed tables, underside of healthcare worker chairs, and underneath the toilet hand rail. These surfaces although hidden on the underside/back of objects may actually be the most frequently touched area's of these objects. This illustrates that the efficient cleaning of all surfaces/areas of high touch object is of high importance, including those items that don't have direct contact with patients.

Conclusion:

The fluormarking system revealed "forgotten" High touch objects, or parts of, in the patient care environment. It is these forgotten areas that may be of greater risk of transmission, as they are the surfaces frequently touched by both staff and patients. This highlights the need to clean the whole high touch object, and the need to make staff aware that the hidden high touch areas are potentially the most important part of the cleaning process to educate/include in training.

21 PROTECTED MEALTIMES IMPROVES NURSING PRACTICES OF MALNUTRITION SCREENING

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Up to 40% of acute care hospital patients are malnourished. Protected mealtime initiatives are one strategy hospitals are implementing to improve nutritional intake by creating a ward environment more conducive to eating, improving patient mealtime assistance and reducing non-urgent interruptions. The purpose of this study was to determine whether implementing protected mealtimes had the additional benefit of improving malnutrition screening practices of nurses through completion of the Malnutrition Screening Tool (MST). This study was conducted on two surgical wards, at a large tertiary hospital in Brisbane, Australia. Pre-intervention data was collected in October 2012. Between November 2012 and February 2013, protected mealtimes was implemented and post intervention data was collected in April 2013. MST completion data was collected pre- and post- intervention from the patient bedside chart through the nursing assessment tool.

367 MST's were included in the study (pre-intervention n=190 and post intervention n=177). MST's were classified as completed (score recorded 0 - 5), or not completed (nil recorded). Results were analysed using a Fischer's exact test. Nursing malnutrition screening practices improved with the implementation of a protected mealtimes strategy (Pre intervention completion rate 64% vs post intervention completion 84%; p<0035).

Protected mealtimes improve nursing practises of malnutrition screening. This will result in early identification of patients who are at risk of malnutrition, thereby generating a referral to an Accredited Practising Dietitian (APD) for diagnosis and an appropriate intervention. Therefore, protected mealtimes have direct, and indirect benefits to the hospital and patient in addressing the burden of malnutrition.

22 USE OF THE SKIN MICROBIOPSY FOR DETECTION OF HPV DNA FROM CUTANEOUS WARTS

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Human papillomavirus (HPV) is responsible for the development of cutaneous warts, and there is growing evidence of an association with the development of keratinocyte cancer. Skin surface swabbing has been extensively used as a technique for the detection and serotyping of cutaneous HPV, however where multiple lesions are in close proximity the ability to accurately collect a sample from a single lesion is limited. Sampling with a cotton swab is also restricted to collection of corneocytes from the skin surface. We describe the use of a minimally invasive skin microbiopsy device for the detection of HPV in cutaneous warts. Using the microbiopsy device, a sample comprising skin cells from stratum corneum through to superficial dermis can be collected with greater accuracy. Wart samples collected with the microbiopsy device were analysed by PCR using degenerate (FAP) primers or type-specific primers to accurately identify HPV serotypes. Using both skin surface swabbing and microbiopsies, the distance at which HPV DNA was detectable in the area surrounding the wart was analysed. We observed HPV DNA originating from the wart does not spread to the surrounding healthy skin and is limited to within an area less than 1cm. Microbiopsy-mediated sampling is a practical method for the detection of viral DNA in the skin and provides an alternative to skin surface swabbing and invasive biopsies.

23 CHARACTERISATION OF NOVEL HYPOMORPHIC AND NULL MUTATIONS IN KLF1 DERIVED FROM A GENETIC SCREEN FOR MODIFIERS OF α -GLOBIN TRANSGE

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Position-effect variegation of transgene expression is sensitive to the chromatin state. We previously reported a forward genetic screen in mice carrying a variegated α -globin GFP transgene to find novel genes encoding epigenetic regulators. We named the phenovariant strains “Mommies” for Modifiers of murine metastable epi-alleles. Here we report positional cloning of mutations in two Momme strains which result in suppression of variegation; i.e. an increased percentage of GFP+ circulating red blood cells. Both strains harbour point mutations in the erythroid specific transcription factor, Klf1. One (D11) generates a stop codon in the zinc finger domain. D11 homozygous mice die in utero of anaemia at 14.5DPC. The other (D45) generates an amino acid transversion (H350R) within a conserved linker between zinc fingers two and three. Homozygous MommeD45 mice have mild compensated microcytic anaemia which models the phenotype in a recently described human family. Mice carrying the H350R mutation were interbred with Klf1+/- mice. Klf1H350R/- mice have severe perinatal haemolytic anaemia and marked splenomegaly. Furthermore blood haemoglobin content, haematocrit and red blood cell size (MCV) were significantly reduced in Klf1H350R/- mice. Analysis of Klf1H350R/- by flow cytometry showed an increase in circulating immature red blood cells. In the bone marrow, a lack of mature red blood cells was observed. Flow cytometric analysis of the spleen from Klf1H350R/- animals revealed an expansion of erythroid cells. We will discuss how H350R disrupts function from ChIP-seq and RNA-seq in primary fetal liver tissue. Previous studies of the linkers in C2H2 zinc-finger transcription factors have revealed their necessity as structural and regulatory components for the C2H2 class of transcription factors. Our results thus far show that the second linker of Klf1 has a role in maintaining the integrity of Klf1 function (at a subset of Klf1-occupied sites,) and does not act just as a spacer for the zinc-fingers.

24 TIMELY DIAGNOSIS OF DEMENTIA- A NARRATIVE LITERATURE REVIEW REGARDING THE BENEFITS AND RISKS OF DIAGNOSIS

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Background:

There has been a global shift by health policy makers towards a model of prioritizing ‘Timely’ Diagnosis of Dementia. Underpinning the current and evolving policies is the realization that even in developed countries, less than half of the people with dementia are diagnosed, and often only at a very late stage. It is postulated that a move towards the earlier identification and diagnosis of dementia would lead to favourable individual and public health outcomes. The specific aim of this report is to review the narrative evidence for the benefits and risks of receiving a timely diagnosis of dementia. This includes an appraisal of the outcomes involving the patient and their carer, through to ascertaining the purported outcomes at societal, public health and economic levels.

Methods:

A systematic literature review was performed using PubMed, Cochrane, Embase, CINAHL, NURSING HEALTH and MEDLINE.

Results:

A total of 93 papers and documents were sourced as eligible for final analysis and synthesis.

Conclusions:

The analysed literature varied greatly in terms of article type and research methodology. Whilst adoption of the merits of timely diagnosis of dementia has thoroughly penetrated the literature, the general level of scientific evidence remains of a low quality. There were no specific trials directly addressing risks or benefits of timely diagnosis of dementia. Several studies promoted medical interventions enabled by earlier diagnosis, but the majority of papers were overwhelmingly qualitative, and often only expert opinion. The findings were grouped into tables outlining the various risks and benefits of Timely Diagnosis.

25 THE IMPACT OF NEAT ON TIME-TO-ANALGESIA IN THE EMERGENCY DEPARTMENT: A PILOT RETROSPECTIVE OBSERVATIONAL STUDY

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The National Emergency Access Target (NEAT) was introduced out of the National Partnership Agreement between the State and Federal Government in 2010. The NEAT target states that by December 31, 2015, 90% of all patients presenting to Australian Emergency Departments (ED) should be seen and discharged or admitted within four hours. Despite its introduction there is currently little evidence on its role in relieving crowding in the ED and its effect on clinical outcomes such as analgesia provision.

Aims:

To contribute to the impact of NEAT on clinical outcomes, to explore the relationship between NEAT and time-to analgesia (TTA), to compare the differences between TTA mean and NEAT compliance, and to evaluate the variance of TTA that can be explained by NEAT.

Methods:

Presentations between September 1 and 14, 2014 were screened for eligibility using the following inclusion criteria: age ≥ 18 and a documented pain scored of ≥ 4 . Presentations were excluded if they were < 18 , pain score of < 4 , Triage Category 1 (Immediate Care), pregnant, chest pain, and trauma.

Results:

A total of 260 presentations were analysed. NEAT and TTA were inversely related; there was a trend towards decreasing TTA with increasing NEAT (Overall, Discharge, or Admitted) compliance. After accounting for factors such as age, gender, Triage Category, discharge destination, and time of arrival, only the Admitted NEAT was significant. Results showed that for every unit increase of Admitted NEAT the likelihood of getting analgesia significantly increases by 5%.

Conclusion:

Increasing NEAT compliance has implications on the timeliness of analgesia in the ED.

26 **MUTATIONS IN THE KLF1 ZINC-FINGER DOMAIN CORRUPTS THE ERYTHROID TRANSCRIPTOME VIA PROMISCUOUS DNA-BINDING TO NOVEL GENOMIC SITES**

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Krüppel-like factor 1 (KLF1) is an erythroid-specific transcription factor that is responsible for coordinating nearly all aspects of erythropoiesis. KLF1 consists of three C2H2-type zinc-fingers through which it binds to DNA at 9bp CACC-box motifs (CCM-CRC-CCN). C2H2-type zinc-fingers consist of two antiparallel β -sheets and an α -helix, stabilised by a coordinating zinc ion. The α -helix of each finger contacts the major groove of DNA, with specific residues binding to a typically guanine-rich base pair triplet. Binding to each triplet is mediated through -1, +3 and +6 amino acid residues of the finger, relative to the start of the α -helix. In recent years, a severe form of human Congenital Dyserythropoietic Anaemia (CDA) and a mouse model exhibiting a very similar phenotype (Neonatal anemia [Nan] mouse) have been shown to result from point mutations in KLF1. The causative mutations in both human (CDA; E325K) and mice (Nan; E339D) result in the substitution of the equivalent conserved glutamic acid at +3 in second zinc-finger of KLF1. Using ChIP-seq we have shown that KLF1^{nan} binds a slightly degenerate CACC-box element (CCM-NGC-CCN). The degeneracy in vivo is not as we predicted. It suggests the change in sequence at the +3 position results in failure to specifically engage the C base at position 4 and favours a G residue at position 5. We employed 4sU-labelling of newly synthesized RNA in tamoxifen-inducible cell lines to show ectopic binding to non-erythroid gene promoters results in aberrant gene expression. We have investigated this unexpected ChIP-seq result with recombinant KLF1 zinc-finger domains containing the CDA and Nan mutations. We show that the mutant proteins have altered binding kinetics and specificities in vitro which are consistent with the ChIP-seq data. This mechanism, whereby a transcription factor mutation leads to promiscuous binding in vivo, and activation of an aberrant transcriptional program, is novel.

27 **WNT PROTEINS SHAPE THE RESPONSE OF NKT CELLS TO α -GALACTOSYLCERAMIDE**

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Natural Killer T (NKT) cells are key regulators of immune responses in autoimmunity, infection and cancer. These cells rapidly produce cytokines, such as IFN- γ and IL-4, upon recognition of glycolipid antigens presented by the MHC class I-type molecule, CD1d. Soluble factors, in particular cytokines, released by antigen presenting cells (APCs) play a central role in shaping NKT cell functions. Recently, it has been shown that Wnt proteins, known primarily for their role in embryogenesis, cell differentiation and tissue homeostasis, are produced by APCs during infection and chronic inflammation. We previously demonstrated that Wnt proteins contribute to antigen-specific IFN- γ production by human T cells. Thus, we hypothesise that Wnt proteins play a key role in shaping NKT cell functions and, thereby, dictating the inflammatory environment.

Genome-wide expression analyses in a mouse model revealed that NKT cells express Wnt receptors, as well as the molecular machinery to transduce and regulate intracellular Wnt signalling. Wnt receptor surface expression was confirmed, underpinning that NKT cells are targets of Wnt proteins. In vivo challenge with the glycolipid antigen, α -galactosylceramide (α -GalCer), which is a strong activator of NKT cells, led to differential expression of Wnt ligands in liver tissue. Functional analyses using small molecule inhibitors of Wnt production and signalling revealed decreased α -GalCer-induced IFN- γ and IL-4 expression by liver NKT cells. Moreover, inhibition of Wnt

secretion decreased expression of IL-12p40, suggesting that endogenous Wnt signalling perpetuates the IL-12/IFN- γ signalling axis. Taken together, these observations strongly suggest novel roles for Wnt proteins in shaping NKT cell functions.

28 CLINICAL UTILITY OF CIRCULATING TUMOUR CELLS IN HEAD AND NECK CANCER

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Head and neck squamous cell carcinoma (HNSCC) is the 6th most common cancer globally with a 5 year survival of less than 50%. Locoregional and distant metastatic disease is responsible for 88% of patient deaths within 12 months of diagnosis. The early identification of patients at high risk of disseminated disease holds remarkable prognostic potential for HNSCC. Circulating tumour cells (CTCs) bearing epithelial markers are a hallmark of invasive cancer. Commercial technologies are being developed to facilitate the isolation of CTCs for diagnostic and research purposes. Our study compared the performance of four CTC isolation technologies using blood from 60 patients with advanced stage HNSCC but no radiological evidence of metastatic disease. The tested platforms were: CellSearch® (FDA-approved) and “label-free” ScreenCell® (microfiltration device), RosetteSep™ (Negative enrichment) and Microfluidic Spiral Chip. Single or clustered CTCs were detected in 9/36 (25%) samples using CellSearch®, 13/22 (59%) samples using ScreenCell® and 15/22 (68%) samples using RosetteSep™. We report for the first time, short-term cultures of circulating epithelial cells isolated from HNSCC patients’ blood in 2D and 3D tumour spheroids from 6/14 HNSCC patients. Future directions include characterization of these patient derived cells and individualized drug sensitivity testing.

29 CASE-CONTROL ANALYSIS OF RISK FACTORS FOR POOR BOWEL PREPARATION IN PATIENT

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Background:

The quality of bowel preparation is a key determinant of overall quality of colonoscopies since polyp detection rate is adversely affected in poor bowel preparation and can be costly since this may require repeat procedures. Quality improvement studies have aimed to improve the bowel prep regimen by modifying the ingredients or to identify risk factors such as underlying metabolic disorders. However, compliance or language barriers may also be implicated.

Aims:

As part of our routine quality improvement program, we conducted a case-control study to identify risk factors associated with poor bowel preparation.

Methods:

In a standardised fashion, the quality of bowel preparation was assessed in all patients and those with poor bowel preparation identified. All patients underwent standardised bowel preparation education and received a split-preparation product. Patients with poor bowel preparation were matched by two patients with good preparation from the same procedure list. For all patients, comorbidities and socio-demographic background (determined by suburb of primary residency) were assessed.

Results:

Out of 434 consecutive colonoscopies during a two month period 22 were found to have poor bowel preparation. Univariate analysis revealed that residence in a region with lower socio-economic background was a risk factor for poor prep (OR 3.4, 95% CI 1.18-10.0). Age, sex, employment status, comorbidities or need for an interpreter were not associated with the quality of bowel preparation.

Conclusion:

Our data demonstrates a link between socio-demographic factors and quality of bowel preparation. Our findings suggest targeted measures to improve the quality of bowel preparation in these groups.

30 NKT CELL-BASED NANOTHERAPEUTIC VACCINATION AGAINST B LYMPHOMA LAM PY¹, DOFF B¹, ZENG BJ¹, MCKEE S¹, LEGGATT G¹, THOMAS R¹, MATTAROLLO S¹

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Currently, the treatment regime for B lymphoma include the use of chemotherapy and monoclonal treatments. However, relapses due to inefficiencies in the elimination of tumour cells often occur with these treatments. Harnessing the adjuvant properties of invariant natural killer T (NKT) cells in immunotherapies to transactivate innate and adaptive effector cells is a promising strategy for cancer treatment. We used a tailorable nanoparticle emulsion (TNE) previously developed to target Clec9A+ cross-presenting CD8+ dendritic cells (Small 2013;9:3736) for the delivery of the NKT cell adjuvant, α -galactosylceramide (α GalCer) and model tumour antigen ovalbumin (OVA). Using this TNE platform for the therapeutic treatment of E μ -myc B lymphoma, we saw: (i) the activation of NK cells and CD8+ T cells and (ii) the potent and durable control of tumour growth. Upon rechallenge with the same tumour, treatment-responsive mice failed to develop tumours, indicating a robust, long lived memory response. Overall, these results demonstrate the promising use of the TNE as a delivery vector for α GalCer to dendritic cells for the priming of tumour-specific immune responses.

Aims:

To develop and optimise a TNE delivery system for α GalCer targeted to cross-presenting dendritic cells for the treatment of B lymphoma and establish its mechanism of action using in vivo models and in vitro assays.

31 OLIGOCLONAL T CELLS IN RHEUMATOID ARTHRITIS PATIENTS SC.LAW¹, HJ.NEL¹, J.ROSSJOHN^{2,4}, HH.REID², NL.LA GRUTA³, R.THOMAS¹

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Rheumatoid arthritis (RA) is strongly associated with the shared epitope (SE)+ HLA-DRB1 alleles, including HLA-DRB1*0401, and development of autoantibodies specific for citrullinated-self-antigens. The preferential binding of citrullinated-vimentin by HLA-DRB1*0401, and a correlation between RA disease activity and the frequency of citrullinated-vimentin-specific T-cells suggests citrullinated-vimentin selects and expands specific T-cells in SE+ RA patients. If this is the case, then expanding clones of T cells may be detectable as a bias in the T-cell receptor (TCR) repertoire. The aim of this research was to determine the extent of TCR bias among T cells specific for a single citrullinated self-peptide in the circulation of RA patients and healthy controls (HC). Citrullinated-vimentin-specific CD4+ T-cells from peripheral blood mononuclear cells (PBMC) of 6 and 8 HLA-DRB1*0401+ HC and RA patients, respectively, were singly sorted for paired TCR α / β chain analysis using multiplex PCR and sequencing. Untreated and treated patients were recruited. The repertoire of TCR α and TCR β was highly diverse in all patients and HCs. The dominant TRAV and TRBV were different between RA patients and HC. Repeated sequences of individual clonotypes were observed in 3/8 RA patients and no HC. The expansion was present in pre- and post-treatment samples, and the same sequences could be observed in the same individual across time-points. The repeated sequences were exclusively derived from CD25+CD127+ effector CD4+ T-cells. These data demonstrate a wide range of possible TCRs are employed for recognition of the citrullinated-vimentin self-peptide among PB CD4+ T-cells of RA patients and HC. The presence of repeated sequences only in RA patients suggests selective citrullinated self-antigen-driven oligoclonal effector T cell expansion in disease.

32 AN OUTCOMES ORIENTED STUDY IDENTIFYING CONTRIBUTIONS OF GERIATRIC CONSULTATIONS VIA VIDEO CONFERENCING

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Early identification of geriatric conditions can help prevent or delay complications. A limited supply of geriatricians present important barriers to access for frail older patients. This study examined the contributions of geriatrician consultations via video conference to the management plans of patients living in residential aged care facilities.

109 residents in three long term care facilities were referred for a video consultation (VC) with a geriatrician by their GP, at a weekly Geriatric VC clinic. The case was prepared by the telehealth nurse in the long term care facility using the interRAI LTCF, and the assessment data entered in CeGA Online. The Geriatrician read the data online and interviewed the patient, the facility staff and GP via VC. At the conclusion of the consultation the Geriatrician completed the report online.

The contribution to care by the geriatricians was quantified to understand the impact of geriatric input to patient care. The perceived benefits of such consultations from the perspective of the GP, aged care facility staff, and geriatrician were also explored.

For new residents, entering residential care is a time of significant change and upheaval. Even so, in this study, the geriatrician made a clinical contribution in more than 90% of the new resident consultations, including diagnostic queries of 61%. While the potential for a clinical contribution in existing residents is not as strong, this study showed the geriatrician made a clinical contribution in 67% of the consultations for existing residents, of which 42% were medication regime adjustments following medication review.

33 POTENTIAL OF SKIN MICROBIOPSY FOR DIAGNOSTIC ANALYSIS OF SKIN CANCER AND DISEASES USING DOWNSTREAM ADVANCED MOLECULAR TECHNOLOGIES

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A minimally invasive skin microbiopsy was developed to enable repeated sampling without the need of local anaesthesia and without pain and scarring, while providing enough viable tissue for molecular detection of disease and live-cell assays. Moving forward from genotyping and BRAFV600E mutation profiling using Sanger sequencing, we explored the feasibility using the skin microbiopsy samples in advanced analytical platforms such as mass spectrometry, Nanostring®, real-time PCR-based somatic mutation profiling array and new generation sequencing. A total of 27 cytokines were screened using state-of-the-art tandem mass spectrometry, and of which 22 were identified using 0.2 µg of total protein. The relative quantification of total RNA in microbiopsy samples were determined using quantitative reverse-transcriptase PCR while digital gene expression profiling was explored using a 48-MAQC human gene set. We compared genetic signatures of microbiopsy samples and its matched non-pigmented lesions, and detected 17 corresponding mutations in 20 samples using p53/Rb PCR Array kit. Complimentary DNA libraries were successfully generated using SMARTer® Stranded RNA-Seq Kit. We have shown that samples collected from the skin microbiopsy can provide relevant biological information of suspicious lesions with advanced omic technologies. Skin microbiopsy is a simple and easy to-use device that can be easily adopted in clinics or used by patients themselves. It is foreseen that the device can enable elaboration of molecular profiling to facilitate early detection of diseases and aid in the identification of therapeutic targets.

34 TARGETING INFLAMMATORY DENDRITIC CELLS WITH CURCUMIN AND VITAMIN-D3 LIPOSOMES IMPROVES NON-ALCOHOLIC STEATOHEPATITIS IN MICE

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Background:

Non-alcoholic steatohepatitis (NASH) is a major complication in patients with obesity and type 2 diabetes. It can progress to cirrhosis, liver cancer, and death, and no drug treatments exist yet. NASH is characterized by fat accumulation and an increase in the number of inflammatory myeloid cells in the liver, which augment disease progression by secreting inflammatory mediators. To preserve myeloid cell integrity but reduce inflammatory activation in NASH we have developed liposomes with anti-inflammatory drugs curcumin and vitamin-D3 and injected these nanoparticles into mice with NASH and tested their capacity to target inflammatory dendritic cells (DCs), reduce inflammation and treat disease.

Methods:

C57BL/6 mice were fed either methionine and choline deficient (MCD)-diet or high-fat high-sugar (HFHS)-diet and intravenously injected with 100uL of Dil-labelled curcumin and vitamin-D3 liposomes. Serum and livers were harvested, immune cells were isolated and stained for leukocyte markers and analysed for Dil-positive cells using flow cytometry. Stage and severity of disease was assessed by measuring serum ALT(U/L) levels, NAFLD activity score by H&E and fibrosis by Trichrome staining.

Results:

Mice fed MCD-diet for 3 weeks developed severe steatohepatitis with increased proportions of CD11c+F4/80+ pro-inflammatory DCs compared to mice on control diet. Injected curcumin and vitamin-D3 liposomes were taken up by hepatic inflammatory DCs. The outcome on targeting DCs with anti-inflammatory liposomes was reduced liver damage as measured by inflammation and steatosis by H&E stained liver sections and serum ALT. Interestingly, anti-inflammatory liposome therapy also improved blood glucose levels and liver fibrosis in mice fed HFHS-diet.

35 BREAKING DOWN BARRIERS – THE INTERNATIONAL RESPONSE TO REMOVING BARRIERS TO DEMENTIA DIAGNOSIS

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Delays, from the point of initial recognition of a cognitive issue, are often the result of with: not recognising the signs of early cognitive decline; a limited understanding of the benefits of timely diagnosis; or delayed access to the next step in the diagnostic process. This project describes international service models for reducing lag to diagnosis of dementia.

Method:

A review of the international literature, including grey literature, was conducted. Contact was made with service providers identified as carrying out relevant activities, even if associated health service research had not already been completed for these activities.

Results:

Following a formal systematic process, 21 papers were included in the final review. Four key strategies were identified for improving access to specialist assessment of dementia: increasing the number of clinics across a wider geographic area; a mobile team where one specialist visits an individual in their home and completes the assessment; single point of referral for all patients in one region – patient sent to the closest memory clinic or one with a shorter waiting list; specialists consult at the local general practitioner's (GP) clinic.

Conclusion:

Attention remains focused on community awareness of the differentiation between normal aging and cognitive issues, and increasing GP awareness of benefits of timely diagnosis (intervention to minimise negative outcomes). Support for general practice by improving links with a specialist memory clinical and removing geographical or physical barriers between GP clinics and memory clinics appear to be effective strategies to reduce delays in diagnosis.

36 **CONCISE COMPUTERISED NEUROPSYCHOLOGICAL TESTS FOR THE DETECTION OF COGNITIVE IMPAIRMENT: PROTOCOL**

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Cognitive impairment, symptoms related to cognitive dysfunction such as forgetfulness, are more common in older people and dementia is often the reason. Given time limitations in primary care, support for identifying cognitive impairment is needed. There are many neuropsychological tests specifically targeting the evaluation of cognitive function in older adults (Woodford 2007).

Aim:

This review will identify concise computerised neuropsychological tests that can be used reliably in clinical practice in primary care and secondary care.

Method:

We will search ALOIS (the Cochrane Dementia and Cognitive Improvement Group's specialised register), MEDLINE (Ovid SP), EMBASE (Ovid SP), PsycINFO (Ovid SP), BIOSIS Citation Index (ISI Web of Science), Science Citation Index, including the Conference Proceedings Citation Index (ISI Web of Science), CINAHL (EBSCOhost) and LILACS (BIREME). The searches will be run by the Cochrane Dementia and Cognitive Impairment Group's Trials Search Coordinator.

Papers focused on a computerised cognitive assessment, which takes less than 30 minutes to administer, and have been validated in a primary or secondary care setting with a population aged 65 and over will be included.

Data on study characteristics will be used to assess quality (using the QUADAS-2 tool) and for an investigation of heterogeneity. The results will be cross-tabulated in two-by-two tables of index test results (positive or negative) against the target disorder (cognitive impairment present or not present).

The target condition comprises three categories: (1) mild cognitive impairment, (2) dementia, and (3) dementia subtypes. Studies may detail one or all of the outcomes.

37 KNOWLEDGE TRANSLATION: IDENTIFYING OPPORTUNITIES FOR SUPPORTING GENERAL PRACTICE TO TRANSLATE DEMENTIA PREVENTION EVIDENCE

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As there is currently no cure for dementia, there is an increasing focus on factors which may prevent or delay the onset of dementia. It has been estimated that up to half of the Alzheimer's Dementia cases are potentially attributable to seven risk factors (diabetes, midlife hypertension, midlife obesity, depression, physical inactivity, smoking and cognitive inactivity). What is the role of primary practice? Effective primary care for community dwelling patients is a complex role. Given that dementia prevention and early diagnosis is only one element of general practice.

Aim:

The aim of this project was to identify key opportunities where existing evidence for dementia prevention/detection may be made locally relevant to support family practice.

Method:

Focus groups were established in Queensland and Victoria. Key topic areas were established using a brainstorming technique with the research team. A systematic literature search was carried out for each theme and a summary written and provided to group attendees. Following a discussion focused on barriers to implementation and practical challenges, participants were asked to rank the key opportunities by identifying which would be the three most likely areas as feasible for targeted translation activity to improve use in general practice. Focus group discussions were recorded, and transcribed verbatim and analysed. Rankings were calculated using the RAND-UCLA consensus method.

Results:

Central to issues resulting from the discussion was the lack of evidence around benefits for timely diagnosis (futile), and a need for more investigation beyond narrative support for the consequences of a delay in the diagnosis.

38 MICRORNAS IN PLASMA: POTENTIAL MINIMALLY INVASIVE BIOMARKERS FOR THE DETECTION OF AGGRESSIVE PROSTATE CANCER

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MicroRNAs (miRNAs) are small non-coding RNAs of ~22 nucleotides. They regulate gene expression by binding to complementary mRNA sequences, to degrade the mRNA or inhibit protein translation. MiRNAs exist in a stable form in plasma, and their deregulation in prostate cancer (PCa) is well known (Bryant, et al., 2012; Shen et al., 2012). Currently, there are no reliable means to predict the aggressiveness of PCa at an early stage.

Aims:

Our study aims to identify and validate novel and existing plasma miRNA biomarkers, and determine their function in PCa pathogenesis.

Methods:

The study consists of 42 plasma samples collected from PCa patients with ≤ 5 years survival ($n=12$) and patients with >5 years survival ($n=30$) from the time of PCa diagnosis, and 19 healthy controls. We have screened differentially expressed miRNAs in pooled samples using PCR arrays. Furthermore, functional characterisation of the differentially expressed miRNAs will be performed by measuring their effect on proliferation and migration of PCa cells.

Results:

Of the 41 miRNAs identified, 4 miRNAs (miR-1290, miR-144-5p, miR-3610 and miR-4516) were upregulated in pooled plasma of PCa patients with ≤ 5 years survival vs those with >5 years survival. Validation of the shortlisted miRNAs in individual samples by qRT-PCR is underway.

Conclusion:

Our study will establish whether the assessment of distinct miRNA expression levels may predict PCa prognosis more accurately. Earlier detection of aggressive disease will improve PCa management and provides individual and socioeconomic benefits. Furthermore, the functional characterisation of differentially expressed miRNAs may pave the way for the development of novel therapeutic modalities.

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CONTINUOUS INTRAVENOUS LINCOMYCIN IN HOME IV PATIENTS

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Background:

Since the emergence of community acquired MRSA, lincosamides have become increasingly useful in their treatment. Clindamycin has excellent oral bioavailability (~90%) however patients often cannot tolerate the high doses required for deep-seated and bloodstream infections. No published data exists on the long term stability of diluted lincomycin solutions at refrigerated and body temperature.

The aims of the study were firstly, to determine the stability of solutions of lincomycin for CIV infusion, and secondly to review clinical outcomes for patients treated with CIV lincomycin.

Method:

Lincomycin was diluted with sodium chloride 0.9% to a final concentration of 7.5 – 10 mg/mL in Baxter elastomeric infusers. The solutions were refrigerated at 3-5°C for 7 days, followed by storage at 37°C for 24 hours. The solutions were sampled at timed intervals and analysed by HPLC. Retrospective chart reviews were undertaken to determine clinical success.

Results:

Approximately 94.4% (95% CI, 92.8-96.0%) of the initial concentration was remaining after 7 days at 3-5°C and 24 hours at 37°C. Seventeen patients were treated with CIV lincomycin for a median duration of 20 days (range 5 – 26) and a median dose of 1.8g / 24 hours (range 1.8g – 2.7g). Fourteen of these patients were treated for staphylococcal infections (10 nmMRSA) and 3 had no positive microbiology. Fifteen of the 17 patients (88%) had successful outcomes. One patient was readmitted to hospital for an unrelated complication and another patient had intolerable nausea on a combination of CIV lincomycin and oral ciprofloxacin.

Discussion:

Lincomycin is sufficiently stable in solution to be stored for 7 days in a refrigerator and administered by CIV infusion over 24 hours in the home IV environment. Although the number of patients treated so far is small, results would suggest this method of delivery results in favourable patient outcomes.

40 TARGETED CHEMOTHERAPEUTIC DEPLETION OF CD163+ CELLS TO IMPROVE IMMUNOTHERAPY FOR B CELL LYMPHOMA

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B cells lymphomas are one of the most common and hard to treat hematological malignancies. Standard R-CHOP therapy is not curative and patients often relapse with more aggressive tumors. Immunotherapy provides a promising, novel approach for long-term control of B cell lymphomas. Tumor-mediated suppression of the immune system is a key mechanism preventing immunological control of tumor growth. Insertion of the myc transgene under the Ig-promoter (Eμmyc) results in a spontaneous, proliferative disorder of pre-B cells in mice, similar to the clinically relevant diffuse large B cell lymphoma (DLBCL). Using the Eμmyc model, we have identified myeloid populations with immunosuppressive potential that expand with tumor progression. Liposomal delivery of doxorubicin to CD163 expressing cells significantly reduced myeloid populations and tumor burden. Combining targeted chemotherapy with a cell-based immunotherapy we attempted to modify the tumor-microenvironment to reduce suppressive myeloid populations at the site of immune priming. Targeted killing of suppressive myeloid populations in combination with immunotherapy is a promising, clinically feasible approach for long-term control of B cell lymphomas.

41 ROAD TO FULL SCOPE OF OCCUPATIONAL THERAPY IN AMHS REHABILITATION ACADEMIC CLINICAL UNIT (ACU)

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Background:

Occupational Therapy (OT) focus is to enhance consumer independence in everyday activities, support the development of coping strategies and improve consumer confidence and self esteem in social situations. There was a need to develop an evidenced-based, priority-based intervention process that could be utilised both as group (in the format of workshops and courses) and individually oriented sessions.

Method:

Implementation of a brief OT screening assessment with all new referrals across all Rehab teams commenced in April 2014. The assessment identified and scored consumer capabilities and needs across various occupational domains. Data has been centrally collected and used to inform targeted intervention modules. All therapists have been supported to develop group and individual therapy modules that incorporate evidence based literature reviews and evaluation with standardised and non- standardised measures.

Results:

April 2014 to March 2015 resulted in 75 completed OT service referrals being collated. Fifty five percent of consumers rated social/leisure needs as the most significant area of need followed by productivity (30%) and self care (20%). THT, MIRT and CCU referrals presented with higher occupational performance difficulties compared to EP.

Discussion:

This process of collecting information across Rehab teams as a way to guide EBP for OT interventions has resulted in outcomes and changes including:

1. Enhanced focus on discipline specific roles and motivation to improve therapy and outcomes.
2. Increased collaboration directly resulting in time saving with processes being shared rather than replicated.
3. Development of targeted programs based on actual needs of consumers and not perceived needs.

42 IMPACT OF MUSCLE SPASMS ON RESTING ENERGY EXPENDITURE IN A FEMALE WITH SPINAL CORD INJURY: A CASE REPORT

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Introduction:

Clinical observations allude to the potential hypermetabolic effects of spasticity following spinal cord injury (SCI) however impact on daily energy needs is unclear. Indirect calorimetry (IC) is the gold standard for assessing resting energy expenditure (REE) as predictive equations are inaccurate in SCI. This case describes changes to REE in a 36yo female (T3 AIS A SCI) requiring escalating therapies to manage severe spasticity.

Methods:

REE was measured using IC (canopy hood) at 4, 16, 17 and 20 months post injury. Spasticity severity was assessed using the Modified Ashworth Scale (MAS). Body weight and antispasticity medications were recorded at each time point.

Results:

At four months post injury, REE was high (1710kcal/d). Over the next 12 months, the patient experienced an 8kg weight loss, visible lower limb muscle wasting and required increasing drug therapies to manage spasticity including use of Tizanidine 12mg/day. These factors in combination resulted in a 470kcal/d (~30%) reduction in REE despite ongoing severe spasticity as reflected in the MAS. With insertion of an intrathecal baclofen pump at 17 months and cessation of Tizanidine, MAS improved however REE remained stable at 1276kcal/d. Weight increased by 4kg in four months.

Conclusion:

Spasticity and the metabolic effects of drugs used to treat it can contribute to weight changes after SCI through effects on REE. Findings provide valuable insight for health practitioners working in SCI as to the dynamic changes in energy needs due to spasticity and demonstrates the advantages of routine IC to assess REE in this group.

43 IMPACT OF TIMING OF DEMENTIA DIAGNOSIS ON CO-RESIDING CAREGIVERS – CONSUMER REFERENCE GROUP FEEDBACK

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Background:

The co-residing dementia caregiver is challenged daily by altered cognitive, functional, behavioural and psychological changes. We are designing a qualitative study of benefits and disadvantages to caregivers associated with the timing of dementia diagnosis. This abstract is a report on the feedback from a consumer reference group testing our protocol and 7 open-ended questions under 3 headings of Impact of Diagnosis, Timing of Diagnosis and Seeking Information/Support Group/Help.

Method:

We established a Consumer Advisory Committee through Alzheimer's Association Victoria, consisting of consumers who are or have been informal caregivers, to test the protocol and questionnaire. A Focus Group Discussion was held and, several months later, individually interviewed by phone using the same questions.

Results:

The focus group meetings involved 4 participants - 3 were individually interviewed later. Responses indicated a preference for earlier diagnosis. A lack of awareness of the possibility of dementia to explain the changes occurring was a common delaying factor. In relation to methodology, the group advised that the questions were useful but suggested some reordering. The wording of the questions was considered to be appropriate. They requested a support person, other than the interviewer, be present in case of emotional upset.

Conclusion:

The consumer reference feedback provided useful suggestions to alter the sequence of the questions and indicated that the wording and intent of the questions were acceptable. These questions can have an emotional impact as caregivers may not have had previous opportunities to ventilate and express how they feel regarding the diagnostic process.

44 THE EFFECT OF CHRONIC PSYCHOLOGICAL STRESS ON THE IMMUNE RESPONSE TO LYMPHOMA

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Lymphoma is responsible for approximately 3% of all cancer related deaths each year in Australia. These cancers can be targeted and destroyed by the immune system in treatments called immunotherapies. However the success rates of these immunotherapies remain sub-optimal, and the reasons for this are not well understood. The aim of the current project is to investigate the possible impact of chronic stress on the efficacy of lymphoma immunotherapy, and to evaluate interventions that block the effects of stress. Chronic psychological stress has been shown to enhance cancer progression via activation of the sympathetic nervous system, and β -adrenergic signalling. To activate β -adrenergic stress signalling we injected mice daily with β -adrenergic receptor agonist isoprenaline, and studied its effects on lymphoma progression and responsiveness to immunotherapy. We found that β -adrenergic stimulation enhanced lymphoma growth and mortality, and reduced the effectiveness of an established immunotherapy. β -adrenergic stimulation also induced a population of circulating granulocytes which may play a role in the enhancement of lymphoma progression. These findings point to an immunosuppressive role for systemic β -adrenergic stimulation during lymphoma immunotherapy.

45 INFECTION WITH NEISSERIA GONORRHOEAE AND ASSOCIATION BETWEEN RISING CEFTRIAXONE MEAN INHIBITORY CONCENTRATION AND INFECTION IN RECTAL AND PHARYNGEAL SITES

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Introduction:

Neisseria gonorrhoeae infection in Australia is most prevalent amongst men who have sex with men (MSM) and Indigenous Australians. There have been 3 recent cases in international literature of extensively drug resistant (XDR) gonorrhoea infections on a background of rising cephalosporin mean inhibitory concentrations (MIC). The aim of this study was to assess outcomes of gonorrhoea infections presenting to our service and to identify risk factors for Neisseria gonorrhoeae with reduced susceptibility to ceftriaxone.

Methods:

We performed a retrospective cohort study, using a prospective database, of patients with gonorrhoea infection between January 2008 and November 2013. We provide a multicentre community and hospital sexual health service to patients within the metro south health district in Brisbane, Australia. Patients were identified as having had an infection with gonorrhoea by reviewing positive nucleic acid amplification tests (NAAT) and/or culture during the study period.

Results:

215 patients were included in the study based on a positive NAAT or culture result. 2 patients had a persistent infection after treatment with ciprofloxacin. On a multivariate model, an association was seen between less susceptible ceftriaxone MIC and a history of MSM (OR 11.81, 95% CI 2.51 – 55.59, $p=0.02$). Univariate analysis was also statistically significant for infection involving either rectal or pharyngeal sites (OR 3.02, 95 CI 1.24 – 7.34, $p=0.02$).

Conclusion:

Screening for *Neisseria gonorrhoeae* in rectal and pharyngeal sites is important amongst patients presenting with a history of MSM. Rising ceftriaxone MIC is associated with MSM and infection in rectal or pharyngeal sites.

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PHARYNGEAL GONORRHOEA AT THE PRINCESS ALEXANDRA HOSPITAL SEXUAL HEALTH CLINIC: A RETROSPECTIVE REVIEW OVER 5 YEARS

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Background:

Concern has been raised over rising cephalosporin mean inhibitory concentrations (MIC) of *Neisseria gonorrhoea*. Screening practices are based on risks of acquisition. Symptoms of infection are rarely attributable to oropharyngeal gonorrhoea. The aim of this study was to review pharyngeal gonorrhoea over the past 5 years at the Princess Alexandra Hospital Sexual Health (PASH) clinic.

Methods:

This was a retrospective study of pharyngeal gonorrhoea diagnosed by nucleic acid amplification testing (NAAT) and/or culture at the PAH sexual health clinic between 1st January, 2007 and 28th of February, 2013. Information was obtained from chart reviews and database entries.

Results:

We identified 81 cases of pharyngeal gonorrhoea. 72 of these cases were men who have sex with men (MSM). 5 of the 9 female cases were identified amongst sex workers. 59 patients were treated with 500mg of intramuscular (IM) ceftriaxone and 20 patients were treated with 250mg IM ceftriaxone. 72 out of 81 had concurrent treatment with azithromycin. 52 patients had a throat swab for culture prior to treatment, with *Neisseria gonorrhoea* isolated in 19. The MICs of isolates from throat swabs ranged from 0.008 to 0.064. This is similar to data from the Australian Gonococcal Surveillance Programme annual report. Test of cure (TOC) was performed within 3 months in 44 cases (54%) and was PCR-positive in 3 cases. All 3 cases were subsequently successfully treated.

Conclusions:

Pharyngeal gonorrhoea is of significant concern for sexual health practitioners and microbiologists. A rise in cephalosporin MICs has been seen at our institute over the past 5 years. In this study which mainly screened high risk patients, only 1 in 2 patients returned for a test of cure and this may in future contribute to the potential rise of multi drug resistant *Neisseria gonorrhoea*.

47 AN ALLELE-DEPENDENT REGULATION OF *IRX4* BY ANDROGENS IN PROSTATE CANCER PANCHADSARAM J^{1,2}, TEVZ G^{1,2}, STYLIANOU N^{1,2}, HOLLIER B^{1,2}, NELSON C^{1,2}, WILLIAMS E.D^{1,2}, CLEMENTS J^{1,2}, BATRA J^{1,2}

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Iroquois Homeobox 4 (*IRX4*) has been recently identified to be linked with prostate cancer (PCa) risk. We observed a down-regulation of *IRX4* expression in the cells undergoing epithelial to mesenchymal transition, suggesting its potential role in PCa progression and metastasis. As androgens and the androgen receptor (AR) play a crucial role in PCa pathogenesis by regulating the expression of many PCa risk-associated genes, we aim to delineate the androgen-mediated regulation of *IRX4* in PCa.

Differential regulation of *IRX4* by androgens was observed in VCaP (up-regulated) and LNCaP (down-regulated) cells. *In-silico* analysis (Cistrome Finder Database) identified binding of two crucial transcription factors- AR and ERG, to the upstream region of *IRX4* in VCaP cells and no AR binding in LNCaP cells (ERG negative). We also noted a correlation between *IRX4* expression and ERG fusion in our RNA-sequencing data of a cohort of seven androgen-responsive patient-derived xenografts. Sequencing of this AR/ERG binding region identified a Multiple Nucleotide Length Polymorphism (MNLP, rs38668493) where a stretch of 47bp sequence is replaced by a novel 21bp sequence. VCaP cells have an intact AR/ERG binding site (47bp/47bp) whereas LNCaP cells have a disrupted AR/ERG binding site (21bp/21bp) which may explain the differential androgen responsiveness of *IRX4*. This MNLP is in linkage disequilibrium (LD) with the PCa risk associated SNP, rs10866528, suggesting this MNLP may possibly be the functional genetic variant at this locus and guiding the AR/ERG binding to this locus and therefore, directing the androgen-mediated regulation of *IRX4*. We are currently carrying out large scale genetic association studies of this MNLP to identify its potential as a prognostic PCa genetic marker.

48 CANDIDA COLONIZATION AS A RISK MARKER FOR INVASIVE CANDIDIASIS IN MIXED MEDICAL-SURGICAL ICUS

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Objectives:

Colonization with *Candida* is an independent risk factor for invasive candidiasis (IC). This study aimed to (1) standardise this procedure (2) determine minimum parameters for prediction of IC (3) determine the potential impact of speciation by nucleic acid testing.

Methods:

Standardised, prospective sampling of throat, perineum, and urine was performed on non-neutropenic patients admitted over 3 years to 7 ICUs in 3 Australian states, with ethics approval. Samples obtained at 72 hours and twice weekly until discharge/death were cultured on chromogenic agar. A subset underwent molecular speciation. Colonisation density was estimated semi-quantitatively. Time to invasive candidiasis (IC) was recorded.

Results:

60% of 6,015 patients were colonised in at least one site at entry, 63% at days 6-8 and 64% at days 9-11; this remained constant thereafter. From days 3-4 to 9-11, throat colonisation declined (54% to 50%), perineal colonisation (34% to 43%) and urinary colonisation (12% to 15%) increased. Sixty-three (86%) patients with IC were colonized prior to infection; 56 (84%) at first screen and 61 (97%) within 2 screens. Ten were not colonised pre-diagnosis of IC; 9/10 had undergone recent, usually GIT, surgery.

Median time from study entry to IC was 7 days (range 0-35). Any colonization predicted IC. Urine colonization had the highest risk (RR=2.25). Throat and/or perineum colonization were most sensitive (98%). Colonization of ≥ 2 sites and heavy colonization (≥ 1 site) were independent risk factors (RR=2.25 and RR=3.7, respectively); combined, specificity increased (40 to 74%) but sensitivity decreased (78% to 58%). PPVs were 2-4% and NPVs 99-100%.

C. albicans comprised 81% of 2854 isolates on CHROMagar, "other" *Candida* spp. 30%, *C. tropicalis* 10%, *C. krusei* 4%; 80% were colonized with a single *Candida* species. Mixed cultures were mostly *C. albicans* with *C. glabrata* or *C. parapsilosis* (67%). IC was due to the dominant coloniser. By MT-PCR *C. albicans* colonised 124 (60%) patients, *C. dubliniensis* (n = 27, 13%), *C. glabrata* (n = 29, 14%), *C. guilliermondii* (n = 3, 1%), *C. krusei* (n = 12, 6%), *C. parapsilosis* (n = 17, 8%), *C. tropicalis* (n = 15, 7%) and *S. cerevisiae* (n = 35, 17%). In comparison, IC was caused by *C. albicans* (62%), *C. glabrata* (11%), *C. tropicalis* (11%), *C. parapsilosis* (8%), *Candida* spp. (7%), and *C. krusei* (1%).

Conclusion:

In Australian ICUs, culture of throat and perineum at 3 and 7 days post admission will predict most cases of IC while minimising costs and laboratory workload. Speciation by MT-PCR would have modified fluconazole therapy in only 11% of cases and would not improve turn around times in the workflow of a routine laboratory. These optimised parameters, in combination with clinical risk factors, should strengthen development of a setting-specific risk predictive model for IC.

49 SMALL INTESTINAL PERMEABILITY AND BACTERIAL TRANSLOCATION IN CHRONIC LIVER DISEASE

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Background:

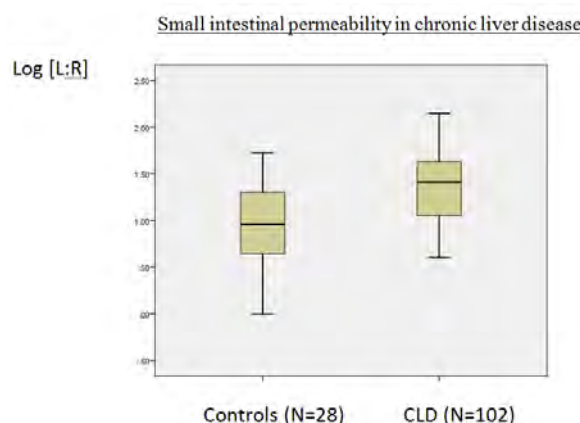
Understanding fibrosis progression may provide novel therapeutic targets to treat chronic liver disease. Small-intestinal permeability may be a contributing factor, by facilitating passage of bacterial products to the liver, where they can promote liver injury. Our aim was to characterise small-intestinal permeability and hepatic fibrosis and to assess for bacterial translocation in chronic liver disease.

Methods:

123 subjects with chronic liver disease were prospectively recruited from the PAH liver clinics, and compared to 28 healthy controls. Small-intestinal permeability was assessed by a dual sugar assay (plasma concentrations of lactulose and rhamnose (expressed as log [L:R ratio], 90 minutes after oral ingestion). Hepatic fibrosis was assessed by Transient Elastography. Bacterial translocation was assessed by endotoxaemia in peripheral blood. Statistical analysis was performed utilising SPSS.

Results:

Small intestinal permeability measurements were complete in 130 subjects (CLD: Alcohol =10, hepatitis B = 27, hepatitis C = 33, fatty liver = 32; Controls = 28). Permeability was significantly higher in chronic liver disease (Mean +/-SD log [L:R] 1.35+/-0.38) vs controls (0.96 +/- 0.34, $p < 0.001$, Student t-test), and this was present across all aetiologies. Permeability correlated with the degree of fibrosis (Spearman's correlation $r = 0.36$, p -value = 0.01). Endotoxaemia was more prevalent in cirrhotics (13/44) vs non-cirrhotics (6/88, $p = 0.001$, Fisher's exact)



Conclusion:

The association of small intestinal permeability and fibrosis suggests a causal link. Bacterial translocation occurs in advanced disease (cirrhosis) and may exacerbate disease progression. Therefore therapies targeting the gut may provide novel methods to treat liver disease.

50 THE DUODENAL MICROBIOTA OF CHRONIC LIVER DISEASE

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Background:

Gut microbiota have been implicated in the pathogenesis of chronic liver disease (CLD). Duodenal mucosa-associated microbiota is of interest as it is the potential source of bacterial translocation to the liver, yet it has not been characterized. Our aim was to characterise duodenal mucosa-associated microbiota in patients with CLD.

Methods:

In a prospective study, 41 patients with CLD and 27 controls underwent upper endoscopy. Duodenal biopsies were obtained to assess mucosa-associated microbiota. The controls had no evidence of mucosal GI disease. Bacteria were isolated using primers targeting bacterial 16S rRNA, and sequenced on the Illumina® MiSeq platform. Subjects also underwent assessment of hepatic fibrosis (Transient Elastography); dietary assessment (Dietary Questionnaire for Epidemiological Studies, Version 2, 1996); biochemical and anthropometric assessments. Bioinformatics analysis was performed using QIIME.

Results:

Duodenal microbiota of CLD subjects showed a reduction in species richness vs. controls (Chao-1 alpha diversity metric, $p=0.046$). CLD microbiota profiles were more similar to each other than those of controls (weighted UniFrac, T-test Bonferroni corrected, $p<0.05$). Both groups were dominated by *Streptococcus* species (>50% relative abundance) followed by *Prevotella*, *Veillonella* and *Neisseria*. The relative abundance of *Prevotella* modestly correlated with dietary fat (g/day, $r=0.41$, $p=0.01$, Spearman rho). No differences were seen in relation to the presence of the Metabolic Syndrome, obesity status, use of proton pump inhibitors, and *Helicobacter pylori* status.

Conclusion:

These novel findings identify changes in the small intestinal microbiome of CLD and provide direction for future studies looking at how these microbiota are involved in pathogenesis.

51 PREDICTORS FOR SURGICALLY RESECTED NON-FUNCTIONING PITUITARY ADENOMA REQUIRING SECONDARY INTERVENTION

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Background:

Surgery is the primary therapy for non-functioning pituitary adenomas (NFPAs). There is lack of knowledge regarding factors influencing remnant tumour growth that is clinically significant.

Aims:

To identify radiological factors that predict the need for secondary intervention in surgically treated NFPAs.

Methods:

This is a retrospective study of surgically resected NFPAs in patients with pre- and serial postoperative MR imaging. Tumour characterisation were performed from pre-operative (tumour volume and extrasellar extension) and post-operative images (remnant volume, remnant site and growth rate). Secondary intervention was the outcome measure. The CVs for pre- and post-operative tumour volume from 8 subjects were 4% and 7% respectively.

Results:

85 patients (49 men, mean age at surgery: 53±16 years) with a median follow up of 5.1 years (range: 1.2-20.0) were studied. The pre-operative median volume was 3447mm³ (526- 99850). Post-operatively, 67% had remnant tumours, 60% were extrasellar with a median remnant volume of 319mm³ (33-5475) and remnant growth rate of 51.8mm³/year (0-1963.2). 25% of patients required secondary intervention (second surgery: 8 and irradiation: 13) and all occurred within the first decade. Cox regression analysis identified presence of post-operative remnant (HR: 5.1, CI: 1.6-11.2, p=0.01), remnant growth rate (HR: 3.3, CI: 2.1-7.0, p<0.01) and pre-operative suprasellar invasion (HR: 1.2, CI: 1.1-1.9, p=0.02) as independent predictors of secondary intervention.

Summary and Conclusion:

In surgically treated NFPAs: (i) secondary intervention was required in 25% (ii) the presence of remnant.

52 THE CONTRIBUTION OF LIPOPOLYSACCHARIDES TO THE DEVELOPMENT OF BILIARY INJURY IN AN LPS ENHANCED ISCHAEMIA-REPERFUSION MODEL

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Introduction:

Ischaemic type biliary stricture (ITBS) formation remains the most troublesome complication following liver transplantation using donated after circulatory death (DCD) organs. This study is aimed at examining the contribution of lipopolysaccharides (LPS) to the development of biliary injury in a LPS enhanced ischaemia-reperfusion model.

Methods:

Sixty-four rats underwent sham operation (sham), 1mg/kg LPS (LPS), liver ischaemia (isch) or liver ischaemia with LPS (isch+LPS). Blood, bile, liver and bile duct tissue was collected after one or six hours of reperfusion. Bile duct injury scoring was performed and bile analysed for composition and a biliary injury markers lactate dehydrogenase (LDH). Blood biliary barrier permeability was assessed using i.v. injection of horseradish peroxidase (HRP) and subsequent bile collection.

Results:

Lipopolysaccharides induced severe biliary injury following 6 hours of reperfusion (sham:0.00 (0.00-3.00); LPS:4.00 (3.00-5.00); isch:1.00 (0.00-6.00); isch+LPS:4.50 (1.00-6.00). Furthermore, LDH levels in bile were significantly increased (sham:3.64±0.81; LPS:11.15±5.91; isch:4.32±1.66; isch+LPS:15.78±9.46 U/L). Blood biliary barrier permeability was increased following LPS and isch+LPS as evidenced by increased HRP concentrations (sham:196.25±86.97; LPS:1163±1019.43; isch:234.53±124.43; isch+LPS:908.39±931.36 U/L). Bile acid synthesis was decreased at 6 hours of reperfusion in the isch+LPS group (sham:1575±206, isch+LPS:1198±193 µmol/L, p=0.008).

Conclusion:

This study suggests that LPS is a potent driver of biliary injury. Altered bile composition in combination with increased blood biliary barrier permeability may play a key role in the development of this injury. The results of this study will contribute to a better understanding of the pathophysiology of ITBS and possible treatment options.

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IN-VITRO IMAGING OF THE INTERACTIONS BETWEEN CD8+T CELLS AND B CELL TUMOUR USING AN Eµ-MYC LYMPHOMA MOUSE MODEL

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B cell lymphoma is often associated with immune suppression and may induce a state of tumour-specific T cell tolerance. Studies revealed that B cell lymphomas can rapidly induce deletion and inactivation of tumour-specific CTLs. Alterations in immune synapse formation in tumor infiltrating T cells from lymphoma patients compared with age matched healthy donor cells has also been shown. T- B cell interactions depend on the antigen-specificity of the T cells, but may also be influenced by the nature of the antigen-presenting cell. This may account for the defects in immune synapse formation observed, and the tolerised state of T cells.

This project is focussed on studying the interactions of antigen-specific and antigen non-specific T cells with B lymphoma cells, healthy B cells and dendritic cells. OT-I GFP CD8 + T cells (OVA-specific) and TRP2 CD8+ T cells have been used as antigen-specific and antigen non-specific T cells respectively. They were incubated together with Eµ-myc (lymphoma) cells that do or do not express OVA and imaged using a live cell microscope. Loss of GFP expression and change of the morphology and velocity of OT-I GFP T cells was observed, which might indicate deletion of T cells.

Currently, studies are underway to evaluate whether differences in the duration of interactions might account for the tolerised state of T cells. Future studies will further compare the interactions formed between T cells and non-malignant B cells. Apoptotic dye will be included to confirm if deletion is a part of the underlying mechanism of T cell tolerance in B cell lymphoma.

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TARGETING MULTIPLE ISLET AUTO-ANTIGENS FOR TOLERANCE INDUCTION

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Type 1 diabetes (T1D) is an autoimmune disease characterized by CD4+ and CD8+ T-cell mediated destruction of insulin-secreting pancreatic islet beta cells. In the spontaneously diabetic NOD mouse model, insulin-specific T cells appear early in the disease process and anti-islet T-cell responses may be restricted to (pro)insulin in

the early stages of disease. Transferring proinsulin-encoding hematopoietic progenitor cells (HPC) that target expression of proinsulin to APC to young mice prevents disease development by inducing immunological tolerance to proinsulin. However, T cells specific to the other islet antigens appear later in the disease process and 'turning-off' these T cells may be required to prevent disease progression.

We aim to evaluate whether targeting expression of multiple islet autoantigens to APC can simultaneously 'turn-off' multiple specificities of anti-islet T-cell responses. Lentivirus vectors containing tandem sequences (polytopes) encoding determinants from proinsulin, IGRP, AI4 (mimotope) and chromogranin A were generated. HPCs transduced with the polytope encoding lentivirus vectors were transferred into NOD mice resulting in long-term polytope presentation to subsequently transferred Islet-specific TCR transgenic T cells.

Currently, studies are underway to evaluate whether tolerance can be simultaneously induced among T cells with multiple specificities in animals that have received HPCs transduced with the polytope encoding lentivirus vectors. Future studies will address whether HPC-based therapies can prevent continued islet destruction in the later stages of diabetes development and lead to reversal of dependence on external insulin sources. These studies could lead to the development of effective cell-based therapies for use in individuals with advanced T1D.

55 SEMI-AUTOMATED IN-GEL TRYPTIC DIGEST FOR HIGH-THROUGHPUT PROTEOMICS

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Peptide generation by trypsin digestion is commonly the first step of mass spectrometry-based proteomics experiments, including 'bottom-up' discovery and targeted proteomics using multiple reaction monitoring. For quantitative proteomics experiments and those involving large numbers of clinical samples, manual trypsin digest and the subsequent clean-up steps leads to variability even before the sample reaches the analytical platform. While specialized filter plates and tips have been designed to facilitate sample processing, the specialty reagents and equipment required may not be accessible or feasible. We aimed to develop a cost-effective, semi-automated in-gel tryptic digest method using standard 96-well microplates with a laboratory liquid handler. To evaluate the methodology, we analyzed samples of diverse complexity, namely a mixture of 7 proteins (2D gel standard), and a complex sample. The results across three replicates show our automated protocol had equivalent or protein identification with similar replicate variability and contamination when compared to a manual in-gel digestion. The simplicity, reproducibility and cost-effectiveness of our automated protocol makes it suitable for routine in-gel tryptic digest, as well as high throughput processing of large clinical sample cohorts.

56 ELUCIDATING DRUG RESISTANCE MECHANISMS USING 2D AND 3D CULTURE SYSTEMS

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The key mechanisms that underlie drug resistance in cancer have yet to be fully elucidated. To address these issues, many are now turning to three-dimensional (3D) based cellular assay systems that permit the formation of multicellular structures such as tumour spheroids. The internal microenvironment of these structures mimics closely that of those in vivo. This study compared drug resistant models of non-small cell lung cancer (NSCLC) in 3D culture with those in grown in two-dimensional (2D) culture. The behaviour of cells cultured in these distinct geometric configurations was monitored and compared by measuring viability, proliferation and oxygen tensions.

3D spheroids were cultured in Happy Cell Advanced Suspension Medium™ (ASM). Isogenic NSCLC cell line models of cisplatin resistance were cultured in 2D and 3D. This model consisted of a sensitive parent (PT) and a matched cisplatin resistant (CisR). All cells were cultured in a range of cisplatin concentrations. Subsequently, viability and hypoxia assays were conducted in order to compare the response of PT and CisR cells in both 2D and 3D culture systems. Morphological analysis was performed via high content analysis (HCA).

Happy Cell ASM is a novel 3D culture medium for generating multicellular tumour spheroids and has potential for HCA. When treated with cisplatin, our spheroids exhibited enhanced resistance to therapy compared to 2D monolayer cultures. These results suggest that spheroids may provide a more accurate in vitro model to elucidate mechanisms of drug resistance and may aid the identification of novel targets to re-sensitise patient therapy.

57 QUALITY INDICATORS FOR THE CARE OF OLDER ED PATIENTS WITH COGNITIVE IMPAIRMENT

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Aims:

The purpose of this study was to develop a suite of quality indicators (QIs) for the assessment of care of older people with cognitive impairment (CI) in Emergency Departments (EDs).

Method:

A systematic approach to QI development was undertaken, which included a review of the literature, a consultative process engaging relevant clinical and epidemiological experts in the care of older people, and comprehensive data collection across eight Australian EDs. Draft indicators were field tested using a cohort of older persons aged 70 years and over (N= 580). After analysis of the field study data, in a second meeting, the panel further defined the QIs. The panel voted for selection of those QIs that were most appropriate for care evaluation.

Results:

A total of 11 process QIs were approved. These process indicators target cognitive screening, delirium screening, delirium risk assessment, evaluation of acute change in mental status, delirium aetiology, proxy notification, collateral history, involvement of nominated support person, pain assessment, post-discharge follow-up and ED length of stay. In addition five structural quality indicators targeting the management of older ED patients with CI were approved: The ED has a policy outlining 1) the management of older people with CI; 2) issues relevant to carers of older people with CI; 3) the assessment and management of behavioural symptoms; 4) delirium prevention strategies; and 5) pain assessment and management.

Conclusion:

The variation in indicator triggering across different ED sites suggest there are opportunities for quality improvement in care for this vulnerable ED population.

58 STRUCTURAL REQUIREMENTS FOR RP105-DEPENDENT MACROPHAGE ACTIVATION BY MYCOBACTERIAL LIPOPROTEINS

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Tuberculosis (TB) is one of the world's most widespread infectious diseases, with approximately one-third of the global population either actively or latently infected. Macrophages are the major host cell for *Mycobacterium*

tuberculosis (Mtb), the bacterium responsible for TB. Understanding of Mtb-macrophage interactions is important for development of anti-TB strategies. RP105 is a Toll-like receptor (TLR) family member that is required for optimal cytokine production by mycobacteria-infected macrophages. We previously reported physical and functional RP105-TLR2 interactions in recognition of mature Mtb lipoproteins, in particular the Mtb 19kDa lipoprotein. In contrast to the well-studied characteristics of TLR2/TLR1 and TLR2/TLR6 agonists, the structural requirements for mycobacteria-derived TLR2/RP105 agonists are currently unknown. Here we investigate the requirements for engagement of RP105 by mycobacterial lipoproteins by systematically manipulating synthetic lipopeptides mimicking the N-terminus of the Mtb 19kDa lipoprotein.

We found that a minimum of two ester-bound acyl chains is required for induction of RP105-dependent TNF- α production in macrophages. However, in contrast to TLR1 and TLR6, the RP105-dependent response did not discriminate between lipopeptides with two or three acyl chains. Furthermore, RP105 agonism did not overlap with agonistic patterns of either TLR1 or TLR6. Treatment of macrophages with free peptide from the Mtb 19kDa lipoprotein N-terminus enhanced TNF- α production induced by RP105-dependent lipopeptides. We conclude that engagement of RP105 by mycobacterial lipoproteins is independent of their acylation pattern, and is manifested in the composition of the peptide chain. Detailed insights into the requirements for RP105 agonism might be harnessed for RP105-specific adjuvant strategies.

59 OUTPATIENT PARENTERAL ANTIBIOTIC THERAPY USING A PATIENT OR CARER SPECIFIC ADMINISTRATION MODEL: A REVIEW AT THE PRINCESS ALEXANDRA HOSPITAL, BRISBANE QUEENSLAND

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Background:

The Alternate Site Infusion Service (ASIS) has provided outpatient parenteral antibiotic therapy (OPAT) to Metro South Health using a predominately patient - or carer- administration model since 1998. In this model of care, the patient or carer is trained to administer the antibiotics by using aseptic technique. Training takes place on the day before discharge and usually requires 1-2 hours of nursing time at the bedside. A visit to the home is scheduled on the day of discharge and whenever required afterwards.

Methods & Materials:

Patients treated by ASIS from 1/1/2011 to 31/12/2011 were included. Patient demographics, diagnosis, microbiology, antimicrobial therapy, duration, outcome and complications were sourced from a prospectively collected database and from patients' medical records.

Results:

In 2011, there were 150 episodes of care in 144 patients with 3,520 days of OPAT. The median duration was 22 days (range 4-106). The most frequently treated organism was *Staphylococcus aureus*. The most commonly prescribed antibiotic was flucloxacillin. Patients with 2 or more co-morbidities had increased risk of failure (OR 2.15; 95% CI, 1.28:3.65, $p=0.004$). The number of home visits made by nursing staff over 1 year was 466; lower than the estimated 3,300 if a nursing administration model of OPAT was used. The cost of OPAT per patient excluding drug administration and home visits was approximately \$150/day; significantly lower than the cost of an inpatient bed estimated to be \$500-800/day.

Conclusion:

OPAT using a patient or carer administration model is an effective and safe option for the management of selected patients with infections requiring intravenous antibiotics.

60 STREPTOCOCCUS SALIVARIUS MENINGITIS POST SPINAL PROCEDURE: DIAGNOSIS BY 16S AND A CALL TO BETTER ASEPTIC PRACTICES

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Background:

Streptococcus salivarius is part of the normal flora of the oral cavity. It is an uncommon cause of meningitis. Most cases are iatrogenic, related to neurosurgical procedures or CSF leaks. The transmission from physician to patient has been proven in the literature, most likely in droplet form during spinal procedures. The recent increase in the number of cases prompted the Healthcare Infection Control Practices Advisory Committee to recommend wearing surgical masks for all spinal procedures. The CDC followed suite recommending the use of face masks at all times when performing spinal injections.

We report two cases of *Streptococcus salivarius* meningitis diagnosed by 16S PCR.

A 17 year old female received a combined spinal-epidural anaesthetic during labour. Within 24 hours, the patient showed signs of meningitis. Subsequent lumbar puncture revealed a white cell count of $>7000 \times 10^6$ cells/L. As the patient had been started on empiric antibiotics, the culture yielded no growth.

A 51 year old female presented with symptoms of meningitis within 24 hours after a lumbar facet joint injection for chronic lower back pain in a musculoskeletal clinic. A lumbar puncture was performed on presentation and indicated a white cell count $>11,000 \times 10^6$ cells/L but did not culture any organisms.

In both cases, meningitis was rapid in onset after spinal procedures with a high CSF white cell count and polymorphonuclear predominance. 16S results confirmed the presence of *S. salivarius*. The 16S result guided therapy and both patients made good recoveries. While no direct source of the infection was sought, infection control procedures were highlighted.

Conclusion:

Streptococcus salivarius is an uncommon cause of meningitis but should be suspected following spinal procedures. The source may be endogenous or exogenous from the hands or face of the health care worker administering the spinal procedure. Ongoing education of the medical profession is required regarding the importance of wearing a surgical mask for spinal procedures.

61 MEDIAN STERNOTOMY IN TOTAL THYROIDECTOMY, A SINGLE CENTRE EXPERIENCE

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The utility of median sternotomy in total thyroidectomy has been described in the setting of large retrosternal goitres.

The authors describe a case of a female patient with a large retrosternal goitre extending to the arch of the aorta (16cmx6cmx5cm) who presented to our department for consideration of total thyroidectomy. She was asymptomatic from the goitre and biochemically euthyroid on presentation. The patient went on to have a total thyroidectomy with the median sternotomy component carried out by the cardiothoracic team. She recovered well post-operatively and was discharged from the unit with no complications.

Following this case, a departmental audit was carried out to review our experience in dealing with large retrosternal goitres especially focusing on the various thoracic accesses used. In discussing this case, we have carried out a review of the literature and highlight the indications for median sternotomy, post-surgical care of the patient, complications and operative pitfalls associated with median sternotomy in the setting of total thyroidectomy.

Conclusion:

The authors report the safe utility of the median sternotomy approach in total thyroidectomy for appropriately selected patients with retrosternal goitres.

62 CYTOSKELETON-MEMBRANE LIPID RAFT INTERACTIONS IN TUMOR PROGRESSION: REGULATION BY OVARIAN TUMOR SUPPRESSOR GENE OPCML

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Lipid rafts are dynamic, cholesterol-rich membrane micro-domains that regulate molecular interactions. Many tumor suppressors and oncogenes localize to lipid rafts, including the tumor suppressor, opioid binding protein cell adhesion molecule (OPCML), which is frequently inactivated in epithelial ovarian cancer. Since OPCML is a cell external GPI-anchored protein with no intracellular domains, we hypothesized that it acts by modulating lipid raft composition.

Aim:

To dissect raft-mediated mechanism of tumor suppressor effect of OPCML in ovarian cancer, and compare with other cancer raft proteomics studies.

Methods:

Subcellular quantitative proteomics coupled with network analysis was performed on ovarian cancer SKOV3 cells expressing OPCML wild type or partially active P95R mutant. RaftProt database was used for comparative analysis with other cancer rafts.

Results:

Enrichment and interaction network analysis revealed altered lipid raft-cytoskeleton interaction upon expression of OPCML. Interesting, wild type but not P95R OPCML significantly increased vimentin and desmin in lipid rafts. Independent meta-analysis of 3 lipid raft proteomics datasets modeling progression in breast cancer, renal cell carcinoma and melanoma showed that over half of the commonly-altered lipid raft proteins were cytoskeleton associated proteins.

Conclusion:

Taken together, these results suggest enhanced cytoskeletal-membrane raft interaction as a common feature of aggressive progression in tumors.

63 THE DUODENAL MUCOSA RETAINS A DIVERSE MICROBIOTA FOLLOWING BOWEL PREPARATION

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Introduction and Aims:

The gastrointestinal (GI) microbiota is essential to gut health. Mucosal tissue is increasingly used in microbiota studies, however these samples are subject to variations from sampling technique and patient preparation. The effect of bowel preparation (osmotic laxative) on the mucosa-associated microbiota (MAM) is of particular interest, however the impact on the upper GI microbiota is unclear. Given patients may undergo both upper GI endoscopy and colonoscopy consecutively, many patients will have consumed bowel preparation prior to their procedure. This study aimed to assess the impact of bowel preparation on the duodenal MAM.

Methods:

Individuals with no evidence of mucosal disease on endoscopy were recruited with consent. Individuals underwent upper GI endoscopy with overnight fasting (n=10) or consumed a standard bowel preparation prior to their procedure (n=15). Duodenal biopsies were obtained from each participant. Following gDNA extraction, 16S rRNA gene libraries were constructed and sequenced (Illumina) to assess the microbial community.

Results and Conclusion:

A diverse duodenal microbiota was observed, dominated by the genus *Streptococcus* (relative abundance up to 50%), followed *Prevotella*, *Veillonella* and *Neisseria*. While there was a trend towards decreased relative abundance of both key duodenal Proteobacteria, *Neisseria* and *Haemophilus*, following bowel preparation, this was not statistically significant (Mann-Whitney-U). No difference in alpha-diversity (Chao1) was observed between the two cohorts, although there was greater variation between individuals in the bowel preparation group. Principal component analysis (UniFrac beta-diversity) revealed substantial overlap between the two cohorts. This study reveals a diverse duodenal MAM is retained following bowel preparation.

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IN-DEPTH ANALYSIS OF KLK7-REGULATED MOLECULAR PATHWAYS IN OVARIAN CANCER

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Kallikrein-related peptidase 7 (KLK7) is a serine protease that is highly expressed in high grade serous ovarian cancer (HGSOC). It is also associated with various aggressive features of progression such as increased invasion and migration in vitro and in vivo tumour growth and peritoneal metastases. To further understand the KLK7 directed molecular pathways involved in these processes, we have used an unbiased proteomic and transcriptomic analysis approach. KLK7 protease targets were identified using two platforms that screen for novel N-termini generated by the test protease (Terminal Amine Isotopic Labelling of Substrates/TAILS) platform, and a decrease in molecular weight of newly cleaved products on SDS-PAGE (PROtein TOPography and Migration Analysis Platform/PROTOMAP). For transcriptome analysis, HGSOC cell lines were treated with active KLK7 and RNA-Seq performed, relative to controls.

Eighteen putative novel KLK7 substrates were identified by both the TAILS and PROTOMAP platforms in HGSOC cell secretions along with one established target (MMP2), which served to validate our proteomics approach. The novel targets included collagens, and matrix metalloproteases, all of which are involved in matrix degrading processes required for peritoneal invasion and metastasis. Interestingly, transcriptomics analysis showed that KLK7 activates several pathways that modulate angiogenesis. These data suggest that KLK7, either directly or indirectly via the above cleaved substrates, mediates peritoneal metastasis, and potentially angiogenesis in HGSOC. Further, we suggest that KLK7 is a potential therapeutic target in HGSOC therapy.

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CLOZAPINE: A FINE BALANCE. DISPENSING IN QLD 2004-12

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Introduction:

Clozapine is the most effective treatment for treatment resistant schizophrenia but its use is suboptimal.

Methods:

Clozapine dispensing data from Queensland, Australia were extracted (2004 – 2013). The number of people dispensed clozapine each year and mean maintenance doses were calculated. The 18-week and 5-year cessation and treatment interruption rates were calculated using Kaplan-Meier analysis.

Results:

Clozapine dispensings increased 36.4% ($p < 0.001$) from 44 to 60 people per 100,000. This was estimated as 8.3% of people with schizophrenia and 33.3% of people with treatment resistant schizophrenia dispensed clozapine in 2013. Mean maintenance dose did not significantly change (364-399mg) over five years of treatment. One in seven (14.2%) people ceased within the first three weeks. Three-quarters (72.7%) reached maintenance therapy. The five year actuarial estimate of the proportion of people a) dispensed clozapine was 0.610 (S.E. 0.011) and b) with an interruption to treatment was 0.422 (S.E. 0.013).

Discussion:

The number of patients being dispensed clozapine increased between 2004 and 2013 but clozapine is still underused. Increased use combined with continued monitoring for adverse effects will improve quality use of clozapine.

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PREDICTORS OF MENTAL HEALTH-RELATED ACUTE SERVICE UTILISATION AND TREATMENT

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Objective:

This project aims to identify the predictors of mental health related acute service utilisation and treatment costs in the year following an acute public acute psychiatric hospital admission.

Method:

Using a retrospective administrative dataset of 1757 people one year before and after a psychiatric admission, multivariate regression models were developed to identify patient- and treatment-related predictors of four measures of service utilisation or cost: (1) duration of index admission; and, in the year after discharge from the index admission, (2) acute psychiatric inpatient bed days; (3) emergency department (ED) presentations, and; (4) total acute mental health service costs. Split-sample cross-validation was used.

Results:

Psychosis diagnosis, problems with living conditions and prior acute psychiatric admission predicted longer index admission. Prior ED presentations and self-harm predicted shorter duration. Higher psychiatric inpatient bed-days in the year post-discharge was predicted by psychosis diagnosis, problems with living conditions and prior psychiatric admissions. Future ED presentations was predicted by past ED presentations. For total acute care costs, psychosis diagnosis was the strongest predictor. Illness acuity and prior psychiatric admission also predicted higher costs, while self-harm predicted lower costs.

Discussion:

The development of effective models for predicting acute mental health treatment costs using existing administrative data is an essential step towards a workable activity based funding model for mental health. Future studies would benefit from the inclusion of a wider range of variables, including ethnicity, clinical complexity, cognition, mental health legal status, electroconvulsive therapy, problems with activities of daily living, community contacts.

67 FUNCTIONAL VALIDATION OF PSA CODING VARIANTS ASSOCIATED WITH PROSTATE CANCER RISK

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Prostate specific antigen (PSA)/Kallikrein-related peptidase 3 (KLK3) is the current biomarker for prostate cancer and has a significant role in the proteolytic cascades involved in seminal clot dissolution and prostate tumor biology. Our recent genetic fine-mapping studies identified two KLK3 non-synonymous single nucleotide polymorphisms (SNPs), rs61752561:G>A (D102N) and rs17632542:T>C (I179T) to be significantly associated with prostate cancer risk and aggressiveness. To date, no studies have been undertaken to understand the potential molecular effect of the two non-synonymous SNPs on PSA mRNA expression, protein structure, stability or function. In-silico analysis suggests an alteration in splicing by creating enhancer motifs for the risk allele. Mini-gene assays verified differential allele-specific mRNA splicing induced by rs17632542 SNP.

Differential scanning fluorimetry (DSF) using recombinant protein isoforms showed an altered thermal stability for both the SNPs as suggested by in-silico analysis. Interestingly, deglycosylation assay confirmed the additional glycosylation site created for the rs61752561 SNP. Proteomic identification of cleavage specific sites (PICS) assay to identify the cleavage site specificity within the active wild-type showed no difference in cleavage specificity.

Our results indicate the rs17632542 and rs61752561 SNPs to have a biological effect on the expression and function of the KLK3/PSA protein suggesting that genetic variation in the PSA gene may be a contributor to the functional role of PSA in prostate cancer pathogenesis. Further cell-based functional assays will provide more insight into their role in prostate cancer initiation and progression.

68 CAN'T STICK MY TONGUE OUT - A PICTORIAL REVIEW OF THE HYPOGLOSSAL CANAL AND ITS PATHOLOGY

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Learning Objective:

To present an imaging review of the hypoglossal canal.

Background:

The hypoglossal canal is the bony canal in which the hypoglossal nerve (CN XII) exits the posterior cranial fossa. CN XII provides somatic motor innervation to the intrinsic and extrinsic muscles of the tongue and has 4 anatomical segments:

(1) intra-axial, (2) cisternal, (2) skull base (hypoglossal canal) and (4) extracranial. Various pathological processes can affect the nerve along its course that may result in unilateral tongue atrophy and tongue deviation (hypoglossal palsy) in the patient. MRI is the modality of choice for delineating CN XII and localising pathology. In the hypoglossal canal, CT provides bony detail to demonstrate skull base tumours eg. Metastases affecting CNXII however, with conventional MRI delineating between the very fine nerve in this region and surrounding vessels is challenging. This delineation is important, as vascular anomalies can also be a cause of hypoglossal nerve palsy. 3T MR and advanced sequences, allow exquisite imaging of the hypoglossal canal with improved ability to differentiate between nerve, normal vessels and pathology.

Imaging Findings:

This abstract is a pictorial review of the current imaging methods of the hypoglossal canal. MR sequences such as cisternographic and T1 weighted contrast-enhanced ultrafast gradient echo 3D sequences that are used to differentiate nerve, vessels and pathology will be presented.

Conclusion:

This pictorial review will demonstrate imaging of the hypoglossal canal. High resolution advanced MR sequences will be used to demonstrate the canal contents with clinical examples used to illustrate pathology.

69 EFFECT OF GLUCOCORTICOID ON BROWN ADIPOSE TISSUE FUNCTION IN HUMANS – A RANDOMISED DOUBLE-BLIND PLACEBO CONTROLLED CROSS-OVER STUDY

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Background:

Glucocorticoid excess causes obesity. In animals, glucocorticoid inhibits brown adipose tissue (BAT) function, leading to weight gain. The involvement of BAT in the development of obesity induced by glucocorticoid in humans is not known.

Aim:

To investigate the effect of glucocorticoid on BAT function in humans.

Method:

In a randomised double-blind cross-over design, 10 healthy adults (6 men, 4 women; age mean \pm SEM, 28 \pm 6year; BMI 25 \pm 3kg/m²) underwent 1week each of oral prednisolone (15mg/day) and placebo treatment with intervening 2-week wash-out period. At the end of each treatment, under standardised cooling, BAT function was assessed by (i) BAT activity on FDG-PET-CT scan (ii) supraclavicular (SCL) skin temperatures using infrared thermography (iii) metabolic rate after a standardised meal using indirect calorimetry.

Results:

Compared to placebo, SCL BAT activity (SUVmax 6.2 \pm 2.6 vs 3.7 \pm 1.4, P=0.08) and volume (44 \pm 26 vs 23 \pm 15cm³, P=0.09) were lower with prednisolone. During cooling, SCL temperature fell to a greater degree with prednisolone (-0.4 \pm 0.1 vs -0.9 \pm 0.170C, P=0.0005). Metabolic rate was stimulated by the meal and the stimulation was higher during prednisolone treatment (209 \pm 21 vs 292 \pm 34kcal/day, P=0.002). Postprandially, SCL skin temperature rose during placebo but fell during prednisolone treatment (+0.2 \pm 0.1 vs -0.3 \pm 0.10C, P=0.009).

Summary:

Prednisolone suppresses BAT activity, enhances metabolic rate postprandially but reduces thermogenesis.

Conclusions:

Glucocorticoid suppresses the function of human BAT. Enhancement of metabolic rate in the face of reduced thermogenic response suggests that glucocorticoid reduces dissipation of energy as heat, enhancing deposition as energy stores after nutrient intake. This may contribute to the development of obesity by glucocorticoid.

70 INHIBITION OF WNT PRODUCTION ENHANCES HOST CONTROL OF LISTERIA MONOCYTOGENES INFECTION

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Bacterial infections pose an important clinical challenge despite our extensive arsenal of antibiotics. This is exemplified by lengthy treatments of chronic infections, high mortality rates due to impaired immune control and excessive inflammation, as well as an alarming increase in antibiotic resistance. One attractive strategy for improved treatments for challenging infections is to enhance the endogenous anti-microbial defence. We and others have associated the Wnt pathway with bacterial infections in patients and model systems implicating novel roles for this well-known developmental signalling pathway in immune responses to infections. However, the nature of immune-related Wnt functions remains to be clearly defined. Here we demonstrate that macrophages and intestinal epithelial cells showed enhanced control of infection with the intracellular bacterial pathogen, *Listeria monocytogenes*, when treated with small molecule inhibitors of Wnt production. Conversely, *Listeria* burden was increased in Wnt-overexpressing cells. Wnt production inhibition did not alter macrophage burden of *Listeria* defective in listeriolysin O, and hence unable to escape from the phagosome, suggesting that Wnt proteins modulate cellular anti-microbial defence mechanisms that target *Listeria* in the cytoplasm. In an in vivo model of *Listeria* infection, Wnt production inhibition significantly lowered bacterial burden in spleens of infected mice underpinning the relevance of our findings to the host control of this pathogen. These observations warrant the exploration of Wnt pathway modulation to enhance endogenous host control mechanisms against pathogenic bacteria.

Aims:

To investigate immune functions of Wnt signalling pathway in *Listeria monocytogenes* infection.

71 PREVALENCE OF METABOLIC SYNDROME AMONG PEOPLE WITH SEVERE MENTAL ILLNESS PRESCRIBED WITH CLOZAPINE

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Background:

People with severe mental illness have significantly reduced life expectancy compared to the general population, due to treatable medical conditions, secondary to modifiable metabolic risk factors. Antipsychotic medications are known to be associated with metabolic side effects.

Objectives:

This study aims to determine the prevalence of metabolic syndrome (MetSy) among people with severe mental illness prescribed clozapine within the Princess Alexandra Hospital Mental Health Service.

Methods:

People prescribed clozapine at PAH will have chart reviews for biometrics (weight, height, BMI, waist circumference, blood pressure), metabolic blood results, and treatments for MetSy risk factors. Metabolic Syndrome was assessed on International Diabetes Federation (IDF) criteria.

Results:

Overall, 135 people on clozapine were analyzed. The prevalence of MetSy was 46%. 70% had a high waist circumference (with corrections for ethnicity), 33% were obese, 58% had hypertension or were on antihypertensive medications, 38% had impaired fasting glucose or were on hypoglycaemic agents, 50% had high triglyceride levels, and 46% had low HDL (high-density lipoprotein) levels.

Conclusion:

People with severe mental illness have a high prevalence of metabolic syndrome with rates that are more than double the prevalence in the general population. Vigilance for monitoring and treatment is especially needed among this group of people.

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ACUTE TRAUMATIC COAGULOPATHY IN AN OVINE MODEL OF TRAUMA AND HAEMORRHAGE

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Background:

Acute Traumatic Coagulopathy (ATC) is an endogenous coagulation dysfunction developing in approximately 25% of trauma patients. It is associated with poor clinical outcomes and its pathogenesis remains poorly understood. Pre-clinical animal research using a large animal model may facilitate improved mechanistic understanding of ATC.

Objective:

To develop an ovine model of ATC as a precursor to pathophysiological and therapeutic studies.

Methods:

Following ethics approval by Queensland University of Technology twelve sheep were instrumented and divided into three groups. The moderate trauma group (n=4) underwent 20% haemorrhage, bilateral tibial fractures and pulmonary contusions. The severe trauma group (n=4) underwent the same injuries, additional hamstring crush injuries and 30% haemorrhage. The remaining animals (n=4) were uninjured controls. All groups were monitored for six hours and not resuscitated. Blood samples were collected at baseline and regularly post injury for ROTEM, INR, APTT and arterial blood gas analysis.

Results:

EXTEM A10 was reduced to 40mm in the severe trauma group from 3 hours post injury ($P < 0.05$), with changes correlated with blood lactate level (Pearson correlation $r = -0.758$, $P < 0.001$). INR increased by 20% in both trauma groups from four hours post injury ($P < 0.05$), with an increase in APTT evident in both trauma groups from one hour post injury ($P < 0.05$).

Conclusion:

The severe trauma group demonstrated coagulation changes consistent with current definitions of ATC. The degree of coagulopathy was correlated with the degree of shock, quantified by arterial lactate. This model may be suitable for investigating the pathophysiology and therapeutic management of ATC.

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ANALYTICAL METHOD DEVELOPMENT FOR THE ESTIMATION OF SILDENAFIL CITRATE ORAL SUSPENSIONS

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The purpose of the study was to develop HPLC and UV method for the analysis of Sildenafil citrate (SC) that is suitable for the treatment of pulmonary hypertension in infants and children.

As there is no commercial SC oral suspension available in the market the product is prepared by Central Pharmacy Manufacturing unit using commercial tablets and commercial suspension carriers.

The developed HPLC method is able to detect changes that occur subsequent to forced degradation under Acid, Alkali, Heat and Oxidative stress conditions. Considerable degradation was found to occur in alkali and oxidative stress conditions.

The method is a simple, rapid, accurate, and stability indicating specific to SC in the presence of excipients in the suspension mixture used in the formulation.

74 THE DEVELOPMENT AND EVOLUTION OF A NEW SERVICE - VASCULAR ACCESS SURVEILLANCE TEAM

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A new service called the Vascular Access Surveillance Team (VAST) has been established within Princess Alexandra (PA) Hospital to target the prevention of vascular access device (VAD) associated BSI. The PA Hospital is the major tertiary facility within Metro South that also provides state-wide services. VAD insertion is the most commonly performed invasive healthcare procedure with approximately 14 million intravenous devices used in Australia each year. VADs play an important role in healthcare, their use however is associated with a risk of bloodstream infection (BSI) caused by microorganisms at the time of insertion or during the course of its use.

Over the past two years VAST has strived to create a culture of excellence in vascular access insertion and management. In all aspects of the program, the patient has remained the central focus. Through education and support, clinicians have been empowered to take a leadership role on the clinical units. A comprehensive VAD surveillance program has driven team objectives and provided evidence of intervention effectiveness. The core business of VAST is to provide the clinician with the best evidence based knowledge and training and to make this possible.

The reactivity of the program has allowed us to integrate best practice for intravascular devices into the clinical culture of our facility. As a measure of the success of this multi modal programme, aspects of the program have been implemented into other hospitals within Metro South Health and more widely, to healthcare facilities throughout Queensland.

75 MIND OVER MATTER - BALANCING EMOTION AND SCIENCE FOR HEALTHY LIVING! EMILY POWER, ANGELA VIVANTI, KEISHA HANDA, SCOTT HONEYBALL, LOUISE MATTHEWS

Success of lifestyle interventions in ambulatory outpatient settings has traditionally been measured by anthropometric changes alone. Capturing a broader range of outcome measures, other than weight loss, may help identify the value of lifestyle intervention on physical and mental health. In addition to weight change, this study aimed to gain insights into the impact of an 8 week, multidisciplinary lead, patient goal oriented, weight and lifestyle modification program on emotional eating behaviours and clients' sense of well being. Physiological and psychological hunger cues, assessed using the 5 point Intuitive Eating Scale (IES) and 10 point Weight Efficacy Lifestyle Questionnaire (WEL), along with Pain and Quality of Life (QOL) (0-100 scales) were completed at weeks 2 and 8 of intervention, in 21 groups, over 4 years. Paired t-tests assessed change and data is presented as mean \pm SD. IES score increased from 2.9 ± 0.4 to 3.2 ± 0.5 ($n=111$, $p<0.0001$); WEL score increased from 5.8 ± 1.8 to 6.9 ± 1.3 ($n=123$, $p<0.0001$); QOL score increased from 57.1 ± 23.3 to 62.2 ± 21.6 ($n=102$, $p<0.0001$); pain score decreased from 47.0 ± 27.0 to 43.5 ± 27.1 ($n=99$, $p<0.0001$); and weight decreased from $108.7\text{kg} \pm 29.2$ to $107.4\text{kg} \pm 29.3$ ($n=154$, $p<0.0001$). Attitudes to food, hunger and emotional wellbeing were positively impacted by the weight and lifestyle modification program, despite only modest weight losses. This highlights the importance of measuring non-anthropometric outcomes as components of short-term lifestyle interventions in a hospital setting. Long-term follow-up of this cohort will assist in identifying if changes in participants' attitudes to food are sustained and the subsequent relationship to weight maintenance and regain.

76 RESULTS OF A SURVEY EVALUATING KNOWLEDGE AND ATTITUDES OF GENERAL PRACTITIONERS IN QUEENSLAND TO PARTNER NOTIFICATION OF CHLAMYDIA TRACHOMATIS

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Background:

Morbidities associated with untreated Chlamydia infection are avoidable with timely treatment. Asymptomatic, undiagnosed infections are at least partially reliant on effective partner notification (PN) practices to identify and treat infected people. This study aimed to assess the knowledge and attitudes of Queensland General Practitioners (GPs) to PN.

Methods:

The Notifiable Conditions Systems (NOCS) was used to extract the names of GPs who had diagnosed at least one case of Chlamydia between 01/07/09 to 30/06/10. A single page questionnaire was mailed to 1078 GPs practicing in the Gold Coast, Brisbane South and Darling Downs-West Moreton Health Districts. The GPs were stratified into low caseload (1-4 cases) and high caseload (5 -37 cases).

Results:

GPs diagnosed 85% (2476/2916) of the Chlamydia infections in these Districts. Response rates were poor and completed questionnaires were received from 261 of 1078 GPs, giving a response rate of 26%. Most respondents 99% recognised that it is their duty to discuss PN and see the importance of PN, however 38% of surveyed GPs mistakenly believed that Qld Health was responsible for PN and a further 26% did not know who was responsible; only 38% of respondents offered PN on behalf of patients.

Conclusions:

Uncertainty regarding the role and responsibility of GPs in regard to Chlamydia PN appears to be affecting practice of PN. The implementation of educational programs tailored at both high and low case load GPs to support and educate regarding PN procedures, methods and resources would be beneficial.

77 IMPROVED EFFECTIVENESS OF CONTACT TRACING IN A RURAL ABORIGINAL COMMUNITY **WALKER A¹, GAFFNEY L¹, LABUSCHEWSKI C², NICHOLSON E², SIMPSON J³, WILLIAMS A³**

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Prompt identification and coordinated investigation of outbreaks is essential to the control of many infectious diseases. An outbreak of gonorrhoea infections was identified in a rural Aboriginal community in Queensland. The incidence of gonorrhoea increased, 8 fold, from 7 cases in 2009 to 59 cases in 2010. Contact tracing was a key component of effectively managing this outbreak.

The priority response included: a retrospective case review, enhanced surveillance system, a testing/treatment and recall program. This program enabled the identification and mapping of people thought to be core transmitters, (individuals with multiple partners and repeat infections) who can potentiate the rapid spread of infections within and across communities.

Overall 133 individuals were identified for follow-up, 130 tested and 74 infections identified, these included 35 people with gonorrhoea, 24 with Chlamydia and 15 who were co-infected. The contribution that contact tracing had in case finding was demonstrated by the high yield rate of 57% (74/130). The majority of cases 94% have been located and treated.

Traditional Country:

The community is made up of over 40 tribal groups consisting of the Wakka Wakka and Western Wakka Wakka (the traditional owners of the land) and descendants of people brought from other parts of Queensland as a result of past government policies.

78 “SCREENIT”: INNOVATING MULTIDISCIPLINARY TRIAGE OF HEAD AND NECK CANCER PATIENTS AND THEIR CARERS USING TECHNOLOGY

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Background:

Patients with head/neck cancer (HNC) undergoing chemoradiotherapy (CRT) experience many physical and psychological symptoms during treatment, requiring synergistic multidisciplinary care. With growing patient numbers and associated strain on health resources, routine screening using patient-reported outcome measures has been proposed to enhance triage processes for face-to-face intervention. “ScreenIT” is an innovative, telehealth system developed to screen swallowing/nutrition and distress status in HNC patients and their carers to enable timely referrals to joint speech pathology/dietetics (SP/DN), occupational therapy and social work services. This project aimed to evaluate the reliability and validity of the ScreenIT tools.

Methods:

Cross-sectional cohorts of 100 HNC patients referred for SP/DN services during CRT, and 40 carers, were recruited. ScreenIT contained items relating to side-effects, oral intake, weight, nutrition and distress. Data from ScreenIT Patient/Carer tools were compared with subsequent blinded face-to-face assessment by SP/DN clinicians.

Results:

Analysis revealed good (>80%) agreement between ScreenIT and clinician ratings. Highest agreement was observed for weight and oral intake measures. Distress rating via the ScreenIT tools enabled more sensitive detection of mild-moderate distress in both patients and carers compared to clinician judgement, and was instrumental in identifying new social work referrals for distress management in our facility.

Discussion:

Findings suggest that ScreenIT can provide valid and reliable detection of swallowing, nutrition and distress in HNC patients and carers. The ScreenIT system, delivered via a telehealth service model, has the potential to optimise patient triage and provide a clinical adjunct for synergistic multidisciplinary management of the HNC population during CRT.

79 INNOVATING SWALLOWING THERAPY IN HEAD AND NECK CANCER: PATIENT PERCEPTIONS OF THE “SWALLOWIT” SYSTEM

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Purpose:

Research suggests that the severity of swallowing problems in patients treated with chemoradiotherapy (CRT) for head/neck cancer can be improved by undertaking intensive, preventative swallowing therapy during CRT

treatment. However, the highly time- and resource-intensive nature of this therapy makes clinical implementation difficult. The current team have developed an online program, "SwallowIT", to allow patients to interact remotely with the clinician and perform supported therapy at home. The aim of this research was to evaluate patient perceptions of SwallowIT using mixed methodology, as part of a larger analysis of the clinical efficacy of this new telehealth tool.

Methods:

15 patients with oropharyngeal cancer treated with CRT participated. All completed intensive daily therapy via SwallowIT, which uses instructive text, picture and video to guide patients through the program, and transmits relevant data to the clinician companion software. Perceptions were evaluated via structured questionnaires following initial orientation to SwallowIT and on completion of CRT. Semi-structured phone interviews were also conducted >3 months post-treatment.

Results:

Highly positive perceptions were noted towards the SwallowIT system for patient comfort, confidence, motivation and support. No significant ($p>0.05$) decline in perceptions was observed from pre- to post-therapy for any questionnaire parameters. Qualitative analysis of interviews revealed four main themes: ease of use, motivating factors, circumstances which made therapy difficult, and personal preferences for service-delivery models.

Conclusion:

Preliminary findings have shown that SwallowIT is well-perceived by consumers and may be a clinically viable method to assist delivery of intensive swallowing therapy within current staff/service constraints.

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FIRST IN MAN STUDY USING A NOVEL EXTRA AORTIC BALLOON COUNTERPULSATION CARDIAC ASSIST DEVICE

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Extra-aortic balloon (EAB) counterpulsation technologies targeting the treatment of chronic heart failure have recently emerged. These devices may be used extraluminally outside the aorta, and/or sewn into the aortic wall replacing a section of the aorta. However, these systems require pumps, ECG gated control systems, electrical power, and communication leads running through the skin to external components, increasing complexity, cost, and risk of infection. We investigated the concept of a passive recoil EAB counterpulsation device for enhancing cardiac performance. Our device functions passively by absorbing energy in systole and releasing it in diastole, is non-blood contacting, fully contained, minimally invasive, and failure mode safe. Two consenting human subjects who had moderate heart failure and were scheduled for coronary artery bypass grafting (CABG), underwent a sternotomy, the pericardium was opened, the ascending aorta isolated, and the device was sutured into position and the balloon was inflated with air. Cardiovascular performance was measured with echocardiography before applying the device (baseline), and after the device was attached. The device was removed within 30 minutes and patients then had their scheduled CABG procedure. Left coronary artery blood flow improved in the first case from 85 ml/min to 198 ml/min (130% increase) and from 39 ml/min to 50 ml/min (28% increase) in the second case. The device was safely deployed and removed and patients recovered normally post CABG. This preliminary data indicates our cost effective and simplistic device can safely boost coronary blood flow and therefore has potential for short and longer term cardiac support.

Acknowledgement:

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81 CLINICIAN EXPERIENCES USING TELEMEDICINE TO DELIVER HEALTHCARE TO ABORIGINAL PATIENTS IN RURAL QUEENSLAND

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Introduction:

The potential benefits of telemedicine for Indigenous communities in particular, are worth investigation—given the inequitable conditions reported in these communities and the higher prevalence of chronic health conditions. The planning of telemedicine for people living in Aboriginal communities must take into consideration a range of factors including the social and cultural requirements of this population; and the lived experiences reported by people working in this field.

Aim:

To describe initial clinician's experience of delivering healthcare to Aboriginal patients of rural Queensland, using telemedicine.

Methods:

Semi-structured interviews were conducted with senior PAH clinicians who provided videoconsultations from the PAH telehealth centre to Indigenous patients living in Aboriginal communities. A thematic analysis process using a case based approach was used to describe the appropriateness, acceptability and the quality of the videoconsultation.

Results:

Videoconsultations were reported as an appropriate and acceptable means of providing care for patients living in selected Aboriginal communities. The specialists reported that there was no adverse effect on clinical quality during the videoconference. The role of a family member and/or a local staff member accompanying the patient during the videoconsultation was reported as useful and important by the clinicians involved.

Conclusion:

According to the specialists interviewed in this study, the general consensus was that services delivered by videoconference, helped patients remain in their community rather than travel to the specialist facility in the city. This method was perceived by the specialists as a more culturally appropriate and convenience method of delivering health services for these people.

82 PRELIMINARY STEPS IN THE DEVELOPMENT OF A PATIENT INFORMATION TOOL FOR PEOPLE LIVING WITH DIABETES IN INDIGENOUS COMMUNITIES

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Introduction:

Key factors that support the uptake of telehealth extend far beyond the fundamental technical requirements, and include strategies which facilitate the redesign and introduction of new models of care, which are clinically effective, efficient, and financially viable – from the perspective of multiple stakeholders. In order to encourage engagement with patients living with diabetes in rural Indigenous communities, we developed training material to describe diabetes and the use of telehealth for specialist diabetic care.

Aim:

To describe the process used to design and develop customised education and marketing material for Indigenous patients living with diabetes.

Methods:

We designed and developed three brochures using an interactive process. Firstly, we reviewed existing Indigenous specific diabetes education material in peer reviewed literature, health information websites and also by contacting various Indigenous healthcare organizations. This process reduced the possibility of duplicating similar previous efforts. We included a component of marketing of the tele-endocrine services provided by the Princess Alexandra Hospital for the Indigenous community of Cunnamulla in rural Queensland. The process had several rounds of consultations with all stakeholders with loops of feedback and re-configuration. Endocrinologists, diabetes educators, Indigenous healthcare workers and patients from PAH and Cunnamulla were involved in the consultation process.

Results:

Three diabetes education leaflets were developed comprising of information for the care of diabetes and information on the tele-endocrine services.

Conclusion:

The process of development of indigenous specific diabetes education material required a significant investment in time due to the multiple feedback loops and document revisions.

83 MINERALOCORTICOID RECEPTOR ACTIVATION ACUTELY INCREASES EXPRESSION AND PHOSPHORYLATION OF THE THIAZIDE SENSITIVE SODIUM CHLORIDE COTRANSPORTER IN HUMANS

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Aim:

To quantify the magnitude and time course of changes in expression of the thiazide sensitive sodium chloride cotransporter (NCC) and its phosphorylated form (pNCC) in human urinary exosomes, in response to activation of the mineralocorticoid receptor (MR) by oral fludrocortisone administration.

Background:

Distal tubular sodium retention is a potent driver of hypertension, with NCC and pNCC key players. The upstream modulators of NCC expression and phosphorylation are unclear, but some evidence suggests that MR activation by aldosterone may be involved. The synthetic mineralocorticoid fludrocortisone is a potent MR agonist.

Methods:

Daily "spot" morning urine samples were collected from 20 patients undergoing fludrocortisone suppression testing (100mcg q6h) to diagnose or exclude primary aldosteronism. Urinary exosomes were isolated by progressive ultracentrifugation and NCC and pNCC expression quantified by western blot, expressed as arbitrary units of optical density (OD) / mg creatinine.

Results:

A progressive rise in NCC and pNCC expression was observed, with median NCC increasing >3 fold, from 3.37 OD/ug to 11.38 OD/ug. Median pNCC increased >2 fold, from 5.29 OD/ug to 14.30 OD/ug. In a mixed effects model a change of +2.12 OD/ug per day ($p < 0.0005$) was estimated for NCC expression, and +2.32 OD/ug per day ($p < 0.0005$) for pNCC.

Conclusions:

MR activation causes a rapid (<24 hours) and progressive increase in NCC and pNCC expression in humans. This widens the potential role of aldosterone in regulating distal sodium handling and has implications regarding treatment options for hypertension with MR blockade.

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MOLECULAR IMAGING BASED SKIN CANCER DIAGNOSTIC PLATFORM

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Our goal is to develop new diagnostic imaging system that targets the molecular signature of skin cancer using a fluorescently labelled peptide. The current standard practice for skin cancer diagnosis is to use visual and tactile clues in addition to patient history. A more thorough assessment may be useful for those with many suspicious lesions. Our aim was to evaluate the investigational drug BLZ-100 (Tumour PaintTM) which is a well-documented tumour targeting peptide conjugated to a fluorescent dye in the context of a diagnostic procedure. We coupled this technology to the Fluobeam clinical fluorescence imaging system for this application in a dose escalation trial where BLZ-100 was administered over 15 minutes with IV infusion at 1-18 mg (n=3 per dose). Live imaging was done pre-dose, 2-48 hours post treatment using the Fluobeam and clinical photography. Lesions were excised at 2 days post infusion and the specimens processed for histological assessment. Visually, lowest dose (1mg) was not sufficient to see the selected lesions, however, 3-12mg doses were associated with clear lesion identification and margin boundary while the highest dose (18mg) resulted in confining background of fluorescence. Clinical/fluorescence correlation was in agreement with matching margins in 6/12 BCC, 1/4 AK/IEC/SCC, 3/5 melanoma. Interestingly, immunohistochemistry in the lesion sections revealed no correlation between known BLZ-100 binding partners, leaving the mechanism of targeting in skin cancer undefined. Overall, the approach was promising and merits further development of more sensitive and specific devices, while defining the molecular targets remains an exciting area of research.

