WELCOME

To the Gold Coast Health Research Week Conference

This inaugural event grew out of the success and popularity of the one-day Research Showcase held at Gold Coast University Hospital last year. This conference is run by Gold Coast Health in partnership with Griffith University, Bond University, Southern Cross University and the Gold Coast Health and Knowledge Precinct.

The goals of the conference are threefold:

1. to encourage and strengthen collaboration; both within different disciplines and areas of the health service, and with our university and commercial partners;
2. to showcase the outcomes of research and highlight its role in effecting positive change, and;
3. to grow and support Gold Coast Health’s emerging research presence.

We have a packed three days of events and presentations for our delegates, and the conference aims to be a key platform for health and medical research on the Gold Coast.

Professor Marianne Vonau AOM
Executive Director, Clinical Governance, Education and Research
Gold Coast Health
Overview of Proceedings

p.3
Keynote speaker

p.4
Panels

p.6
Special events

p.7
Program

p.15
Themed session abstracts

p.42
Lightning talk abstracts

p.55
Poster abstracts
Keynote speaker

Professor Paul Scuffham (PhD, FAAHMS)

Paul Scuffham is a Professor in Health Economics, Director of the Centre for Applied Health Economics and the Deputy Director of the Menzies Health Institute Queensland. His research interests focus on the economic evaluation of health care interventions to identify interventions that provide good value for money. This has included methods for incorporating the public in health policy decision-making and priority setting.

He studied economics at the University of Otago and graduated with a PhD in 1999. Since then he has published >250 articles in peer reviewed journals and leads major contracts with the Australian government’s Department of Health including the evaluation of medicines and health services for listing on the Pharmaceutical Benefits Schedule and the Medical Benefits Schedule. He is the Associate Editor of *Medical Decision Making*, and in 2016 he was admitted as a Fellow of the Australian Academy of Health and Medical Sciences.

Keynote abstract: Making sense of the costs and benefits for healthcare decisions

Health economics is important to provide evidence on the expected costs and health outcomes from healthcare interventions. This assists in the allocation of limited resources to optimise the health of the people. Evidence on costs and health benefits is a requirement for informed decision-making. This key-note address will highlight the importance of health economics. The process of decision-making in healthcare will be described from an economists’ point of view. Greater understanding between economists and health professionals can offer opportunities to get research into practice and policy, leading to more efficient and equitable healthcare. Examples will be drawn from pharmaceuticals through to the delivery of health services to illustrate how health economics can positively influence decisions around the funding of healthcare interventions and health policy.
Panel

Growing Health Professional Resilience: Fix Our Staff or Fix Our System?
Tuesday 28th November, 1-2.30pm

This panel will consist of a scenario-based discussion of this complex issue.

It is November at the fictional Golden Sands hospital, a regional 400-bed hospital somewhere near here. The ED has felt busy all year, especially during the winter surge.

Recent data has shown that there has been a 20% increase in occasions of service (compared to this time last year) and more staff are needed. More staff will be brought on in 2018, but for the remainder of this year staff will have to cope with this demand. It is felt that there is considerable workplace dissatisfaction.

Meet the panel

CHAIR: Dr Shahina Braganza, Emergency Physician, Gold Coast Health
- Dr Matthew Links, Director of Clinical Training, Gold Coast Health
- Dr Michael Ireland, Senior Lecturer (Psychology), University of Southern Queensland
- Dr Margaret Kay, Medical Director, Queensland Doctors’ Health Programme & Senior Lecturer, UQ
- Dr Keith Adam, Specialist Occupational & Environmental Physician, Chief Medical Officer, Sonic HealthPlus
- Dr Shemanandhini Haima, Registrar, Gold Coast Health
- Mr Rod Ellem, A/Director of Allied Health for DEMS and SAPS, GCH
- Ms Samantha Lavender, Registered Nurse and Program Coordinator Midwifery Professional Recognition Program, GCH
- Assoc Prof Jo Bishop, Curriculum Lead & Assoc Dean Student Affairs and Service Quality, Bond University
- Ms Petrina Matijevic, Department Support Officer, Emergency Department, GCH
- Ms Roseann Jane, Nurse Educator, ICU, GCH
Panel

Better Health Through Research

*Wednesday 29\textsuperscript{th} November, 10.30am-12pm*

Join us for an insightful discussion with panellists who have successfully integrated research and applied best evidence to transform healthcare to improve patient care and outcomes.

We will explore the practices, experiences, opportunities and barriers to creating a Learning Healthcare System through research.

A Learning Healthcare System is when science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience.

This panel will be chaired by Dr Greta Ridley, Director of Research, Gold Coast Health.

**Meet the Panel**

Professor David Henry

Professor Andrea Marshall

Professor Gerben Keijzers

Dr Kerina Denny

Ms Trudy Teasdale
Special Events

Preconference Networking Event hosted by MHIQ

*Monday 27th November, 5-7pm*

This event, hosted by the Menzies Health Institute Queensland, will showcase some of Griffith University’s leading researchers and aims to deliver enhanced health outcomes for patients and the community. The event will be moderated by Professor Keith Grimwood and will feature presentations by Professors Nigel McMillan, Claire Rickard, Sharon Dawe, and Paul Scuffham.

Dementia Caregiving and Technology Public Forum

*Tuesday 28th November, 5-7pm*

This public forum aims to engage members of the community with research happening in the field of dementia.

Presenters include Professor Wendy Moyle, Professor Helen Chenery, Dr Theresa Scott and Dr Jacki Liddle. Presentations topics include dementia and driving, Social Robots, smart communication technology, and developing technology with people with dementia.

AusBiotech Networking Event: BioCheers

*Wednesday 29th November, 4.30-6.30pm*

AusBiotech is Australia’s industry organisation, working on behalf of members for thirty years to provide representation and services to promote the global growth of Australian biotechnology. AusBiotech's BioCheers, informal networking events held regularly throughout the year in central locations across Australia, provide an opportunity for life sciences businesses, researchers, students and related service providers to build relationships, collaborate and network. Drinks and light nibbles will be provided, thanks to the support of event partners Gold Coast Health and Knowledge Precinct and Fisher Adams Kelly Callinans.
## Program

### Monday 27th November

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>5-7pm</td>
<td><strong>Preconference Event: Turning Evidence into Better Health Outcomes</strong></td>
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<td>Hosted by MHIQ, Griffith University</td>
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<td></td>
<td>Small lecture theatre</td>
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<tr>
<td>5-7pm</td>
<td><strong>Biobanking: Bridging the gap in translational clinical care</strong></td>
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<td></td>
<td><em>Professor Nigel McMillan, Program Director, Understanding Clinical Conditions</em></td>
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<td>5-7pm</td>
<td><strong>Making vascular access complications history</strong></td>
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<td><em>Professor Claire Rickard, Lead, Alliance for Vascular Access Teaching and Research (AVATAR); Professor, National Centre of Research Excellence in Nursing Interventions (NCREN)</em></td>
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<td>5-7pm</td>
<td><strong>Improving outcomes for vulnerable children: What we know and what we should do</strong></td>
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<td><em>Professor Sharon Dawe, Professor in Clinical Psychology</em></td>
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<td>5-7pm</td>
<td><strong>Assessing value for money in healthcare</strong></td>
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<td></td>
<td><em>Professor Paul Scuffham, Director, Centre for Applied Health Economics; Chair, Health Economics</em></td>
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### Tuesday 28th November

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<tr>
<td>8.30am</td>
<td><strong>Official opening</strong></td>
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<td></td>
<td>Chair: Professor Marianne Vonau AOM, Executive Director, Clinical Governance, Education and Research, Gold Coast Health</td>
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<tr>
<td>8.30am</td>
<td>Welcome to country: Uncle Ted Williams</td>
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<tr>
<td>8.30am</td>
<td>Official Opening: Professor Allan Cripps AO, Chair, Research Subcommittee of the Board, Gold Coast Health</td>
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<td>8.30am</td>
<td>Announcement of 2017 Gold Coast Health/Gold Coast Hospital Foundation grant recipients and special announcements.</td>
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<td>9-10am</td>
<td><strong>Making sense of the costs and benefits for healthcare decisions</strong></td>
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<tr>
<td>10.30am</td>
<td>Morning tea supplied by CREBP, Bond University</td>
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<tr>
<td>10.30am</td>
<td><strong>Lightning Talks: Session 1</strong></td>
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<td></td>
<td>Chairs: Dr Paulina Stehlik and Professor David Henry, CREBP, Bond University</td>
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<td>Oropharyngeal Dysphagia in children aged 18-60 months with Cerebral Palsy: A longitudinal study</td>
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<td><em>Dr Kelly Weir- Conjoint Principal Research Fellow, GCH &amp; Griffith University</em></td>
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<td>LIFTMOR-M protocol: Does resistance and jump training or machine-based isometric training reduce fracture risk in men with osteopenia and osteoporosis?</td>
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<td><em>Miss Amy Harding- PhD candidate, School of Allied Health Sciences, Griffith University</em></td>
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<tr>
<td>12-1pm  Lunch</td>
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<td>1.2-3pm  Large lecture theatre</td>
<td><strong>Growing health professionals’ resilience: Fix our staff or fix our system?</strong> Panel discussion</td>
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<td>Chair: Dr Shahina Braganza, Emergency Physician, Gold Coast Health</td>
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<td>Ms Petrina Matijevic, Department Support Officer, Emergency Department, GCH</td>
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<tr>
<td>2.30-3pm  Afternoon tea</td>
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<td>3-4pm</td>
<td><strong>Building efficiencies - saving time, saving money, saving patients</strong></td>
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<td>Chair: Mr Ian Moody, Executive Director Finance and Business Services, Gold Coast Health</td>
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<td><strong>Themed session 1</strong></td>
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<td></td>
<td>Taking the pressure off our EDs: Evidence for the Schoolies ED avoidance strategy</td>
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<td><em>Dr Amy N B Johnston</em> - Conjoint research fellow, Department of Emergency Medicine, Gold Coast Health &amp; Menzies Health Institute, Griffith University</td>
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<td></td>
<td>Exploring the impact on polypharmacy using a geriatric hospital substitution service</td>
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<td><em>Ms Megan Sharkey</em> - Pharmacist, Gold Coast Health</td>
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<td>Is minimal intervention as effective as routine immobilisation in adults with an uncomplicated closed neck of 5th metacarpal fracture?</td>
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<td><em>Dr Richard Pellatt</em> - Registrar, Emergency, Gold Coast Health</td>
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<td></td>
<td>Factors influencing day of surgery cancellations: From stakeholder and problem identification to organisational readiness assessment</td>
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<td><em>Mrs Mila Obucina</em> - Research Project Officer, Gold Coast Health &amp; School of Organisational Psychology, Griffith University</td>
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<td>Evaluating same day discharge following percutaneous coronary intervention: A process evaluation</td>
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<td><em>Ms Yingyan Chen</em> - Registered nurse/PhD candidate, Cardiology, Gold Coast Health &amp; School of Nursing and Midwifery, Griffith University</td>
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<tr>
<td>4-5pm</td>
<td>No scheduled events</td>
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<tr>
<td>5-7pm</td>
<td><strong>Public forum: Dementia Caregiving and Technology</strong></td>
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<td>Chair: Professor Suzanne Chambers, Director, Menzies Health Institute</td>
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<td>Social Robots: Why give a social robot to a person with dementia</td>
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<td><em>Professor Wendy Moyle</em>, Griffith University</td>
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<td>Dementia and driving</td>
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<td><em>Dr Theresa Scott</em>, University of Queensland</td>
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<td>Smart communication technology and conversational breakdown in dementia: An interdisciplinary perspective</td>
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<td><em>Professor Helen Chenery</em>, Bond University</td>
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<td>We need the experts: Developing technology with people living with dementia and their care partners to support communication</td>
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<td><em>Dr Jacqui Liddle</em>, University of Queensland</td>
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<td>Wednesday 29th November</td>
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<tr>
<td>8.30-10am</td>
<td><strong>Lightning Talks session 2</strong></td>
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<td>Chairs: Dr Paulina Stehlik and Professor David Henry, CREBP, Bond University</td>
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<td></td>
<td><strong>Lightning talks</strong></td>
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<td>Detection of Anthocyanins effects to alleviating platelet activity</td>
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<td><em>Dr Almottesembellah Gaiz</em> - PHD candidate, Griffith University</td>
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<td>Big Data and ICU scoring systems</td>
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<td><em>Mr James Todd</em> - Student, Bond University</td>
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<td>Fail to attend sleep medicine out-patient clinic: A retrospective audit</td>
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<td><em>Dr Puneet Prasad</em> - Registrar, Respiratory</td>
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<td>Obesity on trial for community jury</td>
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<td><em>Miss Gina Thompson</em> - Health Promotion Officer, Public Health, GCH</td>
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<td>Endogenous pain modulation is impaired in tennis elbow: A case control observational study</td>
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<td><em>Dr Leanne Bisset</em> - Senior Lecturer, Allied Health Sciences, Griffith University</td>
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<td>Isolated radius shaft fractures: A less-recognised injury from rugby tackles</td>
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<td><em>Mr Donald Nguyen Ngo</em> - Medical Student, Bond</td>
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<td>Evidence for dietary fibre modification for the prevention of diverticulitis: A systematic literature review</td>
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<td>33</td>
<td>Comparison of teats to support successful oral feeding in preterm infants: A randomised crossover trial</td>
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<td>34</td>
<td>The implementation of measures to reduce RBC transfusion rates for elective hip and knee arthroplasty patients at a tertiary referral centre</td>
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<td>35</td>
<td>Building research capacity: An analysis of the Gold Coast Health Library literature-search service</td>
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<tr>
<td>36</td>
<td>Dying to do it better; Gold Coast Health Paediatric Allied Health Palliative Care Project</td>
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**Programme: 10-10.30am**

- **Foyer**
  - Morning tea supplied by MHIQ, Griffith University

**10.30-12pm**

- **Large lecture theatre**
  - **Better health through research**
    - Chair: Dr Greta Ridley, A/Director Office for Research, Gold Coast Health
      - Panel: Professor David Henry, CREBP, Bond University
      - Professor Andrea Marshall, Acute and Complex Care Nursing, Gold Coast Health & Griffith University
      - Dr Kerina Denny, Registrar, Gold Coast Health
      - Ms Trudy Teasdale, Assistant Director- Pharmacy, Gold Coast Health
      - Professor Gerben Keijzers, Senior Staff Specialist, ED, Gold Coast Health

**12-1pm**

- **Foyer**
  - Lunch contribution by the Clinical Trial Unit, Griffith University

**1-2.30pm**

- **Large lecture theatre**
  - **Building our workforce capability**
    - Chair: Ms Hannah Bloch, Executive Director People and Engagement, Gold Coast Health
      - Development and Pilot of a Professional Capability Framework to enhance learning and development for a tertiary allied health workforce
        - Ms Katherine O’Shea- Advanced Clinical Educator, Allied Health, Gold Coast Health
      - The effectiveness and feasibility of TREAT (Tailoring Research Evidence and Theory) journal clubs in allied health: A randomised controlled trial
        - Dr Rachel Wenke & Ms Katherine O’Shea- Allied Health, Gold Coast Health & School of Allied Health Sciences, Griffith University
Implementing a structured TREAT journal club in allied health: How sustainable are they?
Dr Rachel Wenke - Principal Research Fellow, Allied Health, Gold Coast Health & School of Allied Health Sciences, Griffith University

Regular small-group EBP workshops enable allied health clinicians to apply research in their clinical practice
Mrs Joanne Hilder - Research Officer, Allied Health, Gold Coast Health

Evaluation of an innovative support role for Occupational Therapists who are involved in decision-making capacity assessments
Ms Janine Matus - Research Project Officer, Allied Health, Gold Coast Health

Promoting Research Opportunities in Allied Health: An evaluation of the current research capacity and culture among allied health professionals
Ms Janine Matus - Research Project Officer, Allied Health, Gold Coast Health

A realist review of allied health management in Queensland Health: What works, in which contexts and why
Professor Sharon Mickan - Professor of Allied Health, Gold Coast Health & Griffith University

1-2.30pm
Small lecture theatre
Identifying research hotspots
Chair: Dr Leonie Clancy Clinical Nurse, Older Persons Mental Health Community, Gold Coast Mental Health Services

Complementary and Alternative Medicine (CAM) use in cancer patients commencing new chemotherapy
Miss Karly Huber - Senior Pharmacist /Clinical Facilitator, Gold Coast Health, Griffith University & Quality Use of Medicines Network

The number game of adverse events in residential aged care facilities
Miss Samantha Fien - PhD Candidate, Faculty of Health Science and Medicine, Bond University

Intensive smooth speech for adults who stutter: A Phase I trial of a distributed group model
Ms Marie Hopper - Assistant Director, Speech Pathology, Gold Coast Health

Meteorological factors and respiratory syncytial virus seasonality in subtropical Australia
Dr Carla Morley - Paediatric Advanced Trainee, Gold Coast Health

Therapeutic Drug Monitoring (TDM) in the Intensive Care Unit (ICU)
Miss Rebecca Ann Curran - Pharmacist, Gold Coast Health

Texture modified DiEts in Dysphagia: the inTenDED study
Ms Marie Hopper - Assistant Director, Speech Pathology, Gold Coast Health

Morale, stress and coping strategies of clinical staff working in emergency departments: A comparison of two different departments
Dr Amy N B Johnston - Conjoint research fellow, Department of Emergency Medicine, Gold Coast Health & Menzies Health Institute, Griffith University

2.30-3pm
Foyer
Afternoon tea

3-4pm
Large lecture theatre
On the horizon
Chair: Mr Damian Green, Executive Director, Digital Transformation and Chief Information Officer, Gold Coast Health

Investigation of the mechanisms underlying Mitomycin C induced bladder dysfunction
Miss Eliza West - Honour's Student, Health Sciences and Medicine, Bond University

The relationship between age of tissue and effectiveness of clinical antimuscarinics on inhibiting urinary bladder contractile activity
Miss Eleanor West - Honour's Student, Centre for Urology Research, Faculty of Health Sciences and Medicine, Bond University

A bioinformatic platform enabling biomedical glycomics and glycoproteomics
Dr Matthew Campbell - Research Fellow, Institute for Glycomics, Griffith University

Histamine as a potential mediator in bladder contractile disorders
Miss Zane Stromberga - PhD student, Faculty of Health Sciences and Medicine, Bond University

Heparan Sulfate Mimetic Compounds in modulating RRV as potential therapies
Mr Aroon Supramaniam - Student, Institute for Glycomics, Griffith University
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<tr>
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<td>3-4pm</td>
<td>Increasing patient experiences</td>
<td>Chair: Emeritus Professor Anne McMurray, Principal Research Fellow, Qing Island Health and Griffith University</td>
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<tr>
<td>Small lecture theatre</td>
<td>Themed session 5</td>
<td>Small lecture theatre</td>
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<td>The lived experience of adjusting to life after stroke on the Gold Coast: How well are we doing?</td>
<td>Ms Kim Walder, PhD Candidate/Lecturer, School of Allied Health Sciences, Griffith University</td>
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<td>Staff perceptions on the role of Music Therapy within Inpatient mental health</td>
<td>Miss Madeline Bridgland, Music Therapist, Mental Health Recovery Service, Gold Coast Health</td>
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<td>Evaluation of the use of the Patient Specific Functional Scale (PSFS) as a goal setting tool within a Rehabilitation Response Service</td>
<td>Miss Aleksandra Karwaj, Senior Occupational Therapist, Gold Coast Health</td>
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<td>Listening to music reduces patient anxiety during pleural procedures</td>
<td>A/Prof Bajee Krishna Sriram, Staff Specialist, Respiratory Medicine, Gold Coast Health</td>
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<td>Patient participation in bedside handover</td>
<td>Dr Georgia Tobiano, Nurse Researcher, NMERU, Gold Coast Health</td>
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<td>4-6pm</td>
<td>AusBiotech networking event: BioCheers</td>
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<td>Foyer</td>
<td>Registration is essential. Please register at</td>
<td><a href="https://www.ausbiotech.org/events/event/qld-biocheers-november-2017">https://www.ausbiotech.org/events/event/qld-biocheers-november-2017</a></td>
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<td>8.30-10am</td>
<td>Innovating service delivery</td>
<td>Chair: Ms Toni Peggrem, Executive Director Strategy and Service Planning, Gold Coast Health</td>
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<tr>
<td>Large lecture theatre</td>
<td>Themed session 6</td>
<td>Large lecture theatre</td>
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<td>Evaluating the use a multisite telehealth group model for persistent pain management for rural/remote patients</td>
<td>Mr Darren Doherty, Senior Physiotherapist, Interdisciplinary Persistent Pain Centre, Gold Coast Health</td>
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<td>Retrospective evaluation of a dietitian led gastroenterology clinic and its impact on a tertiary gastroenterology service in southeast Queensland</td>
<td>Ms Rumbidzai Mutsekwa, Senior Gastroenterology Dietitian, Nutrition and Food Services, Gold Coast Health</td>
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<td>Outcomes of a physiotherapy led pelvic health clinic</td>
<td>Mrs Zara Howard, Senior Physiotherapist, Gold Coast Health</td>
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<td>ENT wait times slashed with new allied health service (clinical review)</td>
<td>Mr Chris Payten, Advanced Speech Pathologist, Speech Pathology, Gold Coast Health</td>
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<td>Implementing Cough Reflex Testing in a clinical pathway for acute stroke: A pragmatic randomised controlled trial</td>
<td>Dr Rachel Wenke, Principal Research Fellow, Allied Health, Gold Coast Health &amp; School of Allied Health Sciences, Griffith University</td>
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<td>Transitioning from multi-bed rooms to single-bed rooms: Implications for nursing workloads</td>
<td>Miss Samantha Clayton, Nursing Director - Magnet Program Coordinator, Gold Coast Health</td>
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<td>Implementation of early in-reach Rehabilitation at a tertiary referral university hospital - initial one year experience</td>
<td>Ms Katherine Francis, Senior Speech Pathologist, Rehabilitation Response Team, Gold Coast Health</td>
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<td>8.30-10am</td>
<td><strong>Exploring health systematically</strong></td>
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<td>Chair: Dr Jennifer Fenwick, Professor of Midwifery and Clinical Chair, Gold Coast Health and Griffith University</td>
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<td>β-lactams combined with single daily aminoglycoside administration in the management of serious gram-negative bacterial infections: A systematic review and meta-analysis</td>
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<td><em>Mr Aaron James Heffernan- PhD Student, School of Medicine, Griffith University</em></td>
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<td>A call for age friendly communities: Examining the potential of Intergenerational Care Programs in the Australian setting</td>
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<td><em>Dr Nerina Vecchio- Senior Lecturer, Griffith Business School, Griffith University</em></td>
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<td>Bone-specific Physical Activity Questionnaire (BPAQ) scores are associated with DXA-derived 3D parameters of bone geometry</td>
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<td><em>Dr Benjamin Weeks- Senior Lecturer, Physiotherapy, School of Allied Health Sciences, Griffith University</em></td>
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<td>Using family members as medical interpreters: An exploration of healthcare practitioner’s normative practices in Pediatric units in Australia</td>
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<td><em>Dr Nicola Sheeran- Lecturer, School of Applied Psychology, Griffith University</em></td>
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<td>Functional evaluations of synephrine and octopamine - stimulants in pre-workout supplements</td>
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<td><em>Mr Andy Hsien Wei Koh- PhD student, Faculty of Health Sciences and Medicine, Bond University</em></td>
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<td>Manipulation under anaesthetic after total knee replacement: A systematic review and meta-analysis of prevalence and risk factors</td>
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<td><em>Mr Timothy Walker- Senior Orthopaedic Physiotherapist, Gold Coast Health</em></td>
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<td>Time to let the CAT out of the bag? Comparison of static and computer adaptive testing (CAT) short forms to full length measures in persistent pain</td>
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<td><em>Dr Karl Bagraith- Team Leader, Interdisciplinary Persistent Pain Centre, Gold Coast Health</em></td>
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<td>8.30-10am</td>
<td><strong>Improving patient outcomes through quality activities and research – Asking the right questions</strong></td>
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<td>Professor David Henry and Dr Paulina Stehlik, CREBP, Bond University</td>
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<td>10-10.30am</td>
<td>Morning tea</td>
<td>Foyer</td>
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<td>10.30-12pm</td>
<td><strong>Innovative education</strong></td>
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<td>Chair: Associate Professor Andrew Teodorczuk, A/Professor of Medical Education, School of Medicine, Griffith University</td>
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<td>Evaluating the feasibility and educational value of a multi-faceted safe prescribing workshop for medical students on placement</td>
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<td><em>Ms Christine Sly &amp; Mrs Nallini Mc Cleery- Medical Student Co-ordinator, MEU &amp; Senior Pharmacist/Clinical Educator, Gold Coast Health</em></td>
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<td>Simulation training for disaster management: Multidisciplinary simulation enhances preparedness of GCUH emergency response staff</td>
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<td><em>Ms Amy Sweeney- Research Development Manager, Emergency, Gold Coast Health</em></td>
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<td>Enhancing students’ feedback literacy in the workplace: A learner-centred approach</td>
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<td><em>Dr Christy Noble- Principal Research Fellow (Allied Health), Principal Medical Education Officer, Gold Coast Health</em></td>
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<td>Learning program: Pharmacists as supervisors of Junior Doctors</td>
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<td><em>Mrs Brooke Bullock- Medical Education Officer, MEU, Gold Coast Health</em></td>
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<td>Evaluating the transition, wellbeing, and retention of allied health new graduates</td>
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<td><em>Mrs Mila Obucina- Research Project Officer, Gold Coast Health &amp; School of Organisational Psychology, Griffith University</em></td>
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<td>Improving videofluoroscopic swallow study interpretation in radiology registrars through a targeted training package: A prospective cohort study</td>
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<td><em>Ms Leah Coman- Assistant Director of Speech Pathology, Gold Coast Health &amp; Conjoint Researcher/Lecturer, Griffith University</em></td>
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10.30-12pm  Observations from the floor  Themed session 9
Small lecture theatre
Chair: Professor Andrea Marshall, Acute and Complex Care Nursing, Gold Coast Health and Griffith University
Investigations of Calcium metabolism in Type 1 Myotonic Dystrophy (DM1)
*Dr Phyu Myint Hlaing* - Medical Registrar, Internal Medicine, PAH
Relationship between heart rate variability and sedation levels in brain injured and non-brain injured intensive care patients
*Dr Brent Richards* - Medical Director Innovation Gold Coast Health, on behalf of Mr Matthew Gary Collocott-Honours Student, Griffith University & GCUH Intensive Care Unit, Gold Coast Health
Balloon aortic valvuloplasty for congenital aortic stenosis: A 14 year single centre review
*Dr Ben Auld* - Paediatric Cardiologist, Gold Coast Health
Cardiac and respiratory dysfunction in myotonic dystrophy type 1 patients
*Dr Kavitha Abdul Razak* - Advanced trainee, Renal and General Medicine, Logan Hospital
Nutrition outcomes for patients receiving radiotherapy to the head and neck
*Ms Jessica Abbott* - A/Senior Radiation Oncology Dietitian, Gold Coast Health
Influence of inpatient dietary restriction on acute uncomplicated diverticulitis: A pilot observational study
*Ms Megan Crichton* - Dietician, Faculty of Health Sciences and Medicine, Bond University
Accuracy of predictive equations for optimising nutrition support in the critically ill: A feasibility study (PREDICT)
*Ms Christine Lyall* - Clinical Nurse – Research, NMERU, Gold Coast Health

10.30-12.30pm
Library
Improving patient outcomes through quality activities and research – How to translate knowledge into practice  Workshop
Professor Sharon Mickan and Ms Bridget Weeks, Gold Coast Health

12-1pm  Lunch  Foyer

1-2pm  Supporting healthy habits  Themed session 10
Large lecture theatre
Chair: Professor Julia Crilly, Emergency, GCH and Griffith University
Clinical translation of high load exercise for postmenopausal women with low to very low bone mass: First 12-month findings from The Bone Clinic
*Professor Belinda Beck* - Griffith University, School of Allied Health Sciences & The Bone Clinic
High intensity training for osteoporosis also improves symptoms of knee and hip osteoarthritis: Early findings from the MOAST trial
*Miss Melanie Fischbacher* - HDR Candidate, School of Allied Health Sciences, Griffith University & The Bone Clinic
Habit-based interventions for weight loss maintenance: A randomised controlled trial
*Ms Gina Cleo* - PhD Candidate/Teaching Fellow, CREBP, Bond University
Brief high-intensity exercise enhances skeletal and metabolic health in peripubertal children in the short and long term: CAPO Kids trial
*Dr Rossana Candiota Nogueira* - Research Assistant, School of Allied Health Sciences, Griffith University
Navigating the Maze of Mealtimes (NMOM): Evaluation of a parent training program for childhood feeding difficulties
*Ms Rachael Oorloff* - Senior Paediatric Speech Pathologist, Speech Pathology, Gold Coast Health

2.00-2.30pm  Closing session  Closing
Large lecture theatre
Awards Ceremony and Closing Remarks
- Best poster presentation supplied by Gold Coast Health
- Best lightning talk supplied by CREBP, Bond University
- Best presentation supplied by MHIQ, Griffith University
- Best emerging clinician researcher presentation supplied by Gold Coast Health
- Best paediatric presentation/lightning talk supplied by Associate Professor Sue Moloney and the Children’s Research Collaborative

Award book vouchers provided by Elsevier
Abstracts
Taking the pressure off our EDs: Evidence for the Schoolies ED avoidance strategy

Tonya Donnelly (1,2), Amy N B Johnston (1,3), Michael Aitken (1), Cary Strong (4), Jo Timms (1), Kate Gilmore (1), Julia Crilly (1,3)
(1) Department of Emergency Medicine, Gold Coast Health; (2) Nursing Services and Resource Unit, Cancer Access, Support Services Gold Coast Health; (3) Menzies Health Institute QLD, Griffith University; (4) Gold Coast LASN, Queensland Ambulance Service

**Background**: Emergency department (ED) crowding and ambulance transportation rates continue to increase annually. ED avoidance strategies implemented during mass gatherings, such as the on-site ‘Schoolies’ health tent, might be important healthcare initiatives. However evidence in support of its use for ED avoidance is primarily anecdotal.

**Methods**: This was a retrospective observational study, using linked patient information from the ED and ambulance service databases. The study sample included all 16-18 years old patient presentations made to the ED over a three week period (pre, during, post Qld Schoolies week) and to a temporary medical tent operational during Qld Schoolies week in 2014. Descriptive and inferential statistics were used for analysis.

**Results**: A total of 420 presentations to the health tent were recorded; an average of 60/night. The majority (n=394) were seen and discharged from the tent, while some (n=26) required further care in local EDs. These presentations were in the context of a total of 1,028 patient presentations by 16-18 year olds to the ED and/or health tent over the three week study period (120 pre, 684 during, 224 post Qld Schoolies week).

**Discussion**: The temporary health facility available for QLD Schoolies is an effective ED avoidance strategy. It reduced pressure on the hospital EDs and ambulance services, preventing disrupted access to EDs for local residents by diverted young people away from the local EDs. This evidence supports further consideration of such care models are considering for other mass gathering events as well as in Mass Casualty Disaster Management.

**Funding Source**: Gold Coast Hospital Foundation

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**Is minimal intervention as effective as routine immobilisation in adults with an uncomplicated closed neck of 5th metacarpal fracture?**

Richard Pellatt (1), Randy Bindra (2), Mike Thomas (2), Ez Tan (2), Carl Piennar (3), Igor Fomin (3), Deborah Lengahan (4), Gerben Keijzers (1)
(1) Emergency Department, Gold Coast Health; (2) Orthopaedics, Gold Coast Health; (3) School of Medicine, Griffith University; (4) Physiotherapy, Gold Coast Health

**Background**: 5th Metacarpal (‘Boxer’s’) fractures are common hand injuries, mostly seen in young, active working males. Traditionally, Boxer’s fractures are managed conservatively using a cast for up to 6 weeks. Recently, there has been a trend towards management with simple taping of the little and ring fingers, allowing immediate return to work/activity. A Cochrane review recommended a need for future studies with a focus on...
Themed session abstracts

Factors influencing day of surgery cancellations: From stakeholder and problem identification to organisational readiness assessment

Mila Obucina (1,2), Peter Bartels (1), Anneke Fitzgerald (1), Jennifer Kosiol (2)
(1) Business School, Griffith University; (2) Gold Coast Hospital and Health Service

Background: Low theatre utilisation performance rates were reported at GCUH by recent state-wide audit. Elective surgery cancellations were listed as a contributing factor, including high day-of-surgery cancellation numbers. Factors influencing these have not been fully understood nor investigated. Our research conducted key stakeholder and problem identification in order to inform further improvement initiatives. Furthermore, assessing organisational readiness to change was necessary in order to achieve sustained enhancements.

Methods: Mixed-methods research project conducted in two stages. Stage 1: Semi structured interviews (n=15) and field observations were conducted to gain greater understanding of the research problem. Additionally, twelve months of historical data on day-of-surgery cancellations was analysed. Stage 2: assessing organisational readiness within the operating theatres to uptake and implement quality improvements (currently running). Key issues were derived by means of thematic analysis with observational data translated into a detailed process map.

Results: Early results indicate that while day-of-surgery cancellations were monitored and reported on, inconstancies in adequate data capturing and process understanding were evident. Identified themes included a need for effective communication, streamlined patient education, pre-anaesthetic assessment, pre-operative phone call, and post cancellation follow-up. A range of recommendations for each group are offered.

Discussion: Hospitals have limited control over hospital/patient initiated cancellations, but they can influence outcomes through effective management of processes leading up to day-of-surgery and greater-quality data capturing. Utilising a cancellation form can be an effective tool to inform future initiatives aimed at reducing cancellation rates. Additionally, more work needs to be done in systematically preparing organisations to integrate future interventions.

Implementing same day discharge following percutaneous coronary intervention: A process evaluation

Yingyan Chen (1), Andrea Marshall (1), Frances Lin (1)
(1) School of Nursing & Midwifery, Griffith University

Background: The safety and efficacy of same day discharge following percutaneous coronary intervention is well demonstrated yet there is not widespread implementation of this model of care. Less is known about strategies to effectively implement same day discharge into clinical practice. The objective is to undertake a process evaluation to examine the quality of same day discharge implementation and explore what helps or hinders this process.

Methods: The evaluation setting was an 18-bed Short-stay Unit at the Cardiac Catheterisation Suite at the Gold Coast University Hospital. Guideline adherence and responses of patients and families towards same day discharge process were assessed alongside what influenced implementation. Data were collected by taking field notes, and conducting onsite observation, chart audit, surveys and interviews.

Results: Following six months’ implementation, 22 patients were discharged home the same day. The main reason for limited opportunity was the conservative criteria that needed to be met. The majority of patients and families expressed high satisfaction for the same day discharge experience. There were challenges in identifying eligible patients and the guideline was inconsistently followed. The implementation was supported by a researcher’s involvement and positive perceptions of staff, patients and families. Barriers included communication issues, staff maintaining old established practice and lack of full understanding of same day discharge guideline and process.

Discussion: Despite same day discharge being well perceived from staff, patients and families, the uptake
remained low in this implementation. For future improvements, it is vital to reevaluate the inclusion criteria, provide education and upskill staff in change management.

**Wednesday 29th November**  
**Themed session 2**  
**Building our workforce capability**

**Development and Pilot of a Professional Capability Framework to enhance learning and development for a tertiary allied health workforce.**

Katherine O’Shea (1), Sharon Mickan (1,2)  
(1) Allied Health Services, CGER, Gold Coast Health; (2) Griffith University

**Background:** An increasingly complex healthcare environment in Australian public health system poses a major challenge to healthcare professionals’ ability to develop and maintain skills, knowledge and behaviours, to provide high quality patient care. Literature indicates that optimising learning and development opportunities for allied health is essential and leads to improvements in patient outcomes, quality of care, performance and job satisfaction. A professional capability framework was developed for a tertiary allied health workforce from best practice evidence, national frameworks with local adaptation, and extensive workforce engagement.

**Methods:** Purposive sampling was used to invite participation in a pragmatic pilot of the Gold Coast Professional Capability Framework and purpose-designed self-assessment tools. A mixed methods evaluation was utilised with combination of self-report questionnaire and focus groups. Questions were designed to test content/design and to elicit barriers and facilitators to inform implementation.

**Results:** Findings will be presented of results from the pilot including documentation of patterns of use, barriers and facilitators. An innovative approach was applied to engaging stakeholders in the development and adaption to local context including collaborations with HR, multiple clinical areas within a complex and evolving tertiary health service. The framework and resources promote individual self-assessment and monitoring.

**Discussion:** A clear gap exists to embed workforce learning programs to improve allied health professional capability. The Gold Coast Professional Capability Framework appears to address this gap and enable allied health workforce learning and development through: Enabling individual clinicians to manage their own development; Supporting managers to develop, value and retain staff; Providing a two-way process that promotes consistency of expectations across work areas, professions and enables flexibility and succession-planning within the workforce.

**The effectiveness and feasibility of TREAT (Tailoring Research Evidence and Theory) journal clubs in allied health: A randomised controlled trial**

Rachel Wenke (1,2), Rae Thomas (3), Joanne Hilder (1), Sharon Mickan (1,2)  
(1) Allied Health, Gold Coast Health; (2) School of Allied Health Sciences, Griffith University; (3) Centre for Research in Evidence Based Practice, Bond University

**Background:** Journal clubs (JC) are frequently used within health care settings, however there is a lack of research into their effectiveness in allied health. We investigated the effectiveness and feasibility of implementing a structured journal club that is Tailored According to Research Evidence And Theory (TREAT) in improving EBP skills and practice compared to a standard JC format for allied health professionals (AHPs).

**Methods:** We conducted an explanatory mixed methods study involving a cluster randomised controlled trial with nested focus groups. Nine JCs involving a total of 126 allied health participants were randomly allocated to receive either the TREAT or standard JC format 1hr/month for 6 months. Pre-post measures of EBP skills, knowledge and attitudes using the EBP questionnaire and Assessing Competence in Evidence-Based Practice tool, and a tailored satisfaction and practice-change questionnaire were collected.

**Results:** There were no significant differences between JC formats in EBP skills, knowledge or attitudes or influence on clinical practice. Participants reported significantly greater satisfaction with the organisation of the TREAT format and agreed more strongly that it should continue (p=<0.05). Perceived benefits to the TREAT format and facilitating mechanisms were identified including the use of an academic facilitator and group appraisal approach.

**Discussion:** This study demonstrated the feasibility of implementing an evidence-based JC with AHPs. While valued by clinicians, the TREAT JC did not significantly improve individuals’ EBP competency compared to the standard format. Additional training may be required to further enhance EBP skills.

**Implementing a structured TREAT journal club in allied health: How sustainable are they?**

Rachel Wenke (1,2), Katherine O’Shea (1), Rae Thomas (3), Joanne Hilder (1), Sharon Mickan (1,2)  
(1) Allied Health, Gold Coast Health; (2) School of Allied Health Sciences, Griffith University; (3) Centre for Research in EBP, Bond University

**Background:** A number of key components have been identified in the literature that may enhance the effectiveness of Journal clubs (JCs). A randomised
controlled trial was undertaken at Gold Coast Health to explore the effectiveness of implementing allied health JCs that are tailored according to evidence and theory (i.e., TREAT JCs). Our aim was to explore clinician’s perceptions and experiences sustaining these structured TREAT JCs over the six months after the RCT ceased.

**Methods:** Purposive sampling based on JC attendance and profession was used to invite 25 clinicians who participated in the TREAT JC format (as part of the larger RCT) to participate in either an individual or group interview. Questions were designed to gain an understanding of how participants within each JC sustained each of the eleven key components of the TREAT format. Questions were asked about the challenges clinicians faced, enabling factors and suggestions for the future. Qualitative data was analysed using inductive content analysis.

**Results:** Eighteen clinicians participated in group or individual interviews. Contextual factors influencing sustainability included staffing changes, internal supports, and the perceived value of EBP evident within the team/leaders. Adaptions to certain components of the TREAT format were reported including modifying goal setting and group facilitation. Recommendations for future sustainability included clinicians taking greater ownership and integrating JCs more into everyday practice.

**Discussion:** The sustainability of structured journal clubs varied between allied health teams and is dependent on contextual factors. Implications of key findings in relation to learning and behaviour change theory will be discussed.

**Regular small-group EBP workshops enable allied health clinicians to apply research in their clinical practice**

Joanne Hilder (1), Rachel Wenke (1), Rae Thomas (2), Sharon Mickan (1,3)

(1) Allied Health Clinical Governance, Education & Research, Gold Coast Health; (2) Centre for Research in Evidence-Based Practice, Bond University; (3) Griffith University

**Background:** Health professionals are expected to provide evidence-based, high quality patient care. Clinician’s desire further education and practical strategies to increase their knowledge and confidence about evidence based practice (EBP) to share with peers. However, busy clinicians often find it difficult to attend traditional day long EBP courses. We aimed to evaluate a small-group distributed model of EBP education which balances the competing clinical demands and learning needs of a group of allied health EBP champions.

**Methods:** A concurrent mixed methods evaluation was used to evaluate the feasibility, effectiveness and impact of conducting a small-group EBP education programme. The educational intervention involved 2-hour interactive educational sessions for each month from August - November 2016. Participants completed self-reported surveys; the EBP Confidence Scale, the EBP Implementation Scale and an Adapted Fresno test before and after the educational sessions. A satisfaction questionnaire and focus groups were completed immediately after the intervention and after 3 months after the educational small groups.

**Results:** Significant pre-post intervention differences (p=<0.05) were identified in clinicians’ confidence and behaviours in relation to; formulating research questions, conducting searches, critically appraising the literature, discussing research evidence with patients and colleagues, and evaluating clinical outcomes. Clinician’s reported positive outcomes of the workshop and were highly satisfied.

**Discussion:** Monthly small group EBP training is a feasible and acceptable format for allied health clinicians and may improve self-efficacy, EBP knowledge and skills. The programme may also promote increased EBP behaviours and shared learning with peers.

**Evaluation of an innovative support role for Occupational Therapists who are involved in decision-making capacity assessments**

Janine Matus (1), Christy Noble (1), Sharon Mickan (1,2)

(1) Allied Health, Gold Coast Health; (2) Griffith University

**Background:** The assessment of a client’s decision-making capacity is a complex undertaking with significant legal, ethical and practical ramifications. Best practice recommendations include having input from Occupational Therapists (OTs) to support a holistic assessment process. However, there is a recognised lack of knowledge, skills and confidence among health professionals who are involved in decision-making capacity assessments. Since 2013, the GCHHS OT Department has developed and implemented a dedicated Capacity Assessment Support Role which provides education, training and consultancy interventions for decision-making capacity assessment. The objective of this study is to evaluate OTs’ perceptions of these interventions and how they have influenced their learning.

**Methods:** Individual semi-structured interviews were completed with a purposive sample of twelve OTs who had engaged with the Capacity Assessment Support Role over at least 6 months. Data were transcribed and analysed using a thematic analysis process which was informed by a framework based on Stephen Billett’s theory of workplace learning.

**Results:** All participants reported very positive impressions of the interventions provided by the Capacity Assessment Support Role, and described a positive change in their knowledge, skills, attitudes and
Promoting Research Opportunities in Allied Health: An evaluation of the current research capacity and culture among allied health professionals

Methods: This cross-sectional observational study used an online survey consisting of the Research Capacity and Culture (RCC) tool. This validated tool measures perceived skill or success in a number of areas relating to research capacity or culture at the level of individuals, teams and the organisation, as well as perceived barriers to and motivators for research engagement.

Results: Data from 343 respondents (34.2% response rate) was available for analysis. Mean scores across all items indicated that respondents considered themselves, their teams and their organisation to be moderately successful at undertaking and supporting research. The most commonly reported barriers related to a lack of time, funds and skills. The most commonly reported motivators included increased job satisfaction, having a problem identified that needs changing, and having dedicated time, support from managers, and available mentors.

Discussion: These results indicate key strengths and priority areas for improving the research capacity and culture of the allied health workforce in a sustainable way. Our results are consistent with those described elsewhere in the literature. It is recommended that targeted strategies be implemented at the level of individuals, teams and the organisation to overcome identified barriers and strengthen motivators for research.

A realist review of allied health management in Queensland Health: What works, in which contexts and why

Methods: A qualitative realist evaluation methodology was chosen because it allows a deep and confidential comparison of success in one setting with others, in order to better understand which mechanisms are triggered in specific contexts. Components of organisational and management structures were identified as key contexts. Context, Mechanism and Outcome (CMO) configurations were developed to describe how each context triggered a series of mechanisms to achieve specific outcomes.

Results: Nine representative Hospital and Health Services participated in this project, with 58 allied health staff and five executives being interviewed individually or in focus groups. This study concluded that allied health organisational and management structures do influence the effective and efficient governance and delivery of clinical services. Three aspects of organisational context were identified as having the greatest potential and impact for effective allied health management: executive allied health leadership roles, integrated professional and operational accountabilities and systems that support education and research opportunities.

Discussion: This study provides a comprehensive and detailed report of how key components of organisational structure trigger management mechanisms and ultimately generate positive outcomes for allied health staff.

Funding Source: Allied Health Professions Office, Queensland Health

Complementary and Alternative Medicine (CAM) use in cancer patients commencing new chemotherapy

Karly Huber (1,2,3)

Wednesday 29th November

Themed session 3

Identifying research hotspots
informed decisions when deciding to use CAMs during chemotherapy. Development of standardised patient education would be beneficial; enabling patients to make chemotherapy regimens and whether CAMs can interact with chemotherapy.

Methods: Forty-five patients with a cancer diagnosis and commencing new chemotherapy treatment in a large teaching hospital day unit were interviewed regarding current CAM usage. The Natural Medicines Comprehensive Database was utilised to perform an interaction check for each patient taking CAMs. Study participants were provided with recommendations regarding safe use of reported CAMs during chemotherapy.

Results: Thirty-six percent of study participants were taking CAMs at the time of commencing chemotherapy, consuming between 1 to 14 products. CAMs that potentially interact with chemotherapy treatments were being consumed by 50% of CAM users. The majority of this group (69%) were taking CAMs known to have antioxidant properties, which potentially oppose the anticancer effect of some chemotherapy agents, such as anthracyclines. Thirty-eight percent of CAM users were taking products that could affect CYP450 enzymes that metabolise medications in their treatment protocol. Seventy percent of these CAMs had the potential to inhibit or induce CYP3A4.

Discussion: Cancer patients being treated with new chemotherapy regimens use CAMs, some of which may interact with chemotherapy regimens and potentially compromise treatment outcomes. It is imperative these patients receive information regarding safe CAM use in chemotherapy. Development of standardised patient education would be beneficial; enabling patients to make informed decisions when deciding to use CAMs during chemotherapy treatment.

The number game of adverse events in residential aged care facilities

Samantha Fien (1), Mike Climstein (2,3), Timothy Henwood (1,4), Evelyne Rathbone (1), Justin William Leslie Keogh (1,5,6)
(1) Faculty of Health Science and Medicine, Bond University; (2) Southern Cross Care, North Plympton; (3) Exercise, Health and Performance Faculty Research Group, The University of Sydney; (4) Water Based Research Unit, Faculty of Health Sciences, Bond University; (5) Human Potential Centre, AUT University, Auckland, New Zealand; (6) Cluster for Health Improvement, Faculty of Science, Health, Education and Engineering, University of the Sunshine Coast

Background: CAM-chemotherapy drug interactions may result in significantly harmful consequences by reducing efficacy or increasing toxicity of chemotherapy treatment. The study’s aims were to determine CAM use in cancer patients commencing new chemotherapy regimens and whether CAMs reported could interact with this chemotherapy.

Methods: A prospective cohort design was used in three residential aged care facilities on the Gold Coast/Northern NSW and included 100 participants consented to the study. The primary outcome included the number of adverse events accessed through the residential aged care facilities’ records. Custom negative binomial regression models adjusted for potential confounders to estimate incident rate ratios of residents falling whilst in residential aged care facilities.

Results: During the six months, there were a total of 73 falls, 45 wounds, 40 hospital admissions and 29 deaths with 12% of the residents having a fall(s), wound, admitted to hospital and dying within the six month period. For every additional hospital admission there was a 26.9% increase risk of falling and for every additional wound there was a 6.7% increase risk of falling.

Discussion: The prevalence of adverse events in Gold Coast and Northern NSW residential aged care facilities are high, suggesting that continual refinement of assessment; education, awareness and management processes are required to improve resident outcomes. In particular, falls reduction interventions appear of high importance, as they would likely reduce the number of hospital admissions and wounds in the residential aged care setting.

Intensive smooth speech for adults who stutter: A Phase I trial of a distributed group model

Marie Hopper (1), Melissa Lawrie (1,2), Elizabeth Cardell (2,3)
(1) Speech Pathology Service, Gold Coast Health; (2) School of Allied Health Sciences, Griffith University; (3) Menzies Health Institute Queensland

Background: Literature supports the effectiveness of speech restructuring procedures which systematically retrain speech movements (such as smooth speech or prolonged speech) for adults who stutter (AWS). Despite this evidence, services for AWS in Queensland remain limited, with two key barriers being local availability of treatment services and a paucity of clinicians who are confident and competent working in this specialised area. Furthermore, five-day intensive group programs which are efficacious and cost effective have not been
Themed session abstracts

Meteorological factors and respiratory syncytial virus seasonality in subtropical Australia.

Carla Morley (1), Keith Grimwood (1,2), Samuel Maloney(3), Robert S Ware(2).
(1) Department of Paediatrics, Gold Coast Health; (2) Menzies Health Institute Queensland, Griffith University;
(3) Pathology Queensland Gold Coast Laboratory

Background: Although evidence is emerging of meteorological factors influencing seasonal respiratory syncytial virus (RSV) outbreaks, data are limited for subtropical regions, especially in the southern hemisphere.

Methods: We employed a retrospective, analytical time-series study for the Gold Coast region of South-East Queensland, Australia (latitude 28.0 South). RSV cases in children aged <5-years were identified from the Pathology Queensland Gold Coast Laboratory database between 1 July 2007 and 30 June 2016. Corresponding local meteorological data (daily maximum temperature, daily minimum temperature, rainfall, relative humidity, dew point, daily global solar exposure) were collected from the Australian Bureau of Meteorology.

Results: Most RSV activity occurred in mid to late autumn (April-May), tapering in winter (June-August). While all meteorological variables measured were associated with RSV incidence, rainfall (rho=0.4) and humidity (rho = 0.38) both occurring 8-weeks earlier had the nearest temporal relationship.

Discussion: Identifying meteorological conditions associated with seasonal RSV epidemics can improve understanding of virus transmission and assist planning for their impact upon the health sector, including timing of passive RSV immunoprophylaxis for high-risk infants, and future public health interventions, such as maternal immunisation with RSV vaccines.

Therapeutic Drug Monitoring (TDM) in the Intensive Care Unit (ICU)

Rebecca Curran (1)
(1) Pharmacy, Gold Coast Health

Background: Conducting TDM of narrow therapeutic index drugs is essential in ICU. Quality indicators for the provision of clinical pharmacy services to critical patients include monitoring of patients with toxic or sub-therapeutic drug concentrations. The clinical appropriateness of TDM of four common drugs (gentamicin, vancomycin, phenytoin, sodium valproate) was evaluated in ICU.

Methods: TDM levels from 81 ICU patients over a 6-month period were examined retrospectively. Local hospital guidelines and national therapeutic guidelines were used to ensure standardisation in defining clinical appropriateness. Clinical appropriateness was determined by indication of the drug, indication for serum sampling and timing of level in relation to dose.

Results: Within the 6-month period 510 doses of study drugs were given. TDM levels totalled 228, with 3.7% of these in patients not on the selected medication. Of the sodium valproate levels done 69% were not clinically indicated costing $172.62. There was a large proportion of phenytoin levels being done too soon after a dose change or initiation of therapy with 64% being sub-therapeutic. Gentamicin and vancomycin levels comprised 65% of drug levels tested, with the frequency and number of tests per patient indicating a lack of awareness around empirical vs. guided therapy. TDM levels for the four drugs examined were shown to cost the hospital $4723.37.

Discussion: A considerable number of drug levels are conducted at inappropriate times or clinically not indicated. Further study looking at the benefit of a standardised educational tool for Junior Registrars working in ICU is required to improve quality and safety of TDM.

TTexture modified DiEtS in Dysphagia: the inTEnDED study

Marie Hopper (1), Shelley Roberts (2,3), Rachel Wenke (1,4,5), Leisa Bromiley (6), Zane Hopper (6), Andrea Marshall (3,7,8)
(1) Speech Pathology Service, Gold Coast Health; (2) National Centre of Research Excellence in Nursing
Background: Texture modified diets or thickened fluids are frequently used in the hospital setting to assist patients with difficulties swallowing (dysphagia). Consequences of consuming incorrect modified foods or fluids are serious and can include choking, chest infections and even death. The aim of this study is to understand what helps and hinders the provision of correct modified diet and thickened fluid prescriptions, and to develop and implement an intervention to improve this process.

Methods: This mixed methods study involves exploring what helps and hinders the provision of correct food/fluids to patients at risk of dysphagia. Individual and group interviews with health care professionals produced qualitative data which were analysed using inductive content analysis. Findings informed the development of a complex intervention to be implemented and evaluated during Phase 2 of this study.

Results: 10 health care professionals (two speech pathologists, two dietitians, four allied health assistants and two doctors) and seven family members were interviewed for a total of 6.9 hours of interview data. The findings of this study suggest that key factors preventing provision of correct modified foods and thickened fluids included rigidity of existing protocols; lack of awareness of protocols; lack of knowledge about modified diets and thickened fluids; miscommunications; and disagreement about recommendations. Factors that facilitated their provision included effective communication; viewing correct nutritional provision as important; standardised systems; and understanding modifications and why they are required.

Discussion: Understanding factors that influence clinical practice is essential for developing appropriate interventions to improve practice.

Funding Source: Private Practice Trust Fund Small Projects Investment Grant, Gold Coast Health

Morale, stress and coping strategies of clinical staff working in emergency departments: A comparison of two different departments

Amy N B Johnston (1,2), Louisa Abraham (3), Ogilvie Thorn (4,5), Jaimi Greenslade (3,5), Marianne Wallis (6), Eric Carlström (7), Donna Mills (4), Julia Crilly (1,2)
(1) Department of Emergency Medicine, Gold Coast Hospital and Health Service; (2) Menzies Health Institute, Griffith University Southport; (3) Department of Emergency Medicine, Royal Brisbane and Women’s Hospital; (4) Department of Emergency Medicine, Sunshine Coast Hospital and Health Service; (5) School of Medicine, The University of Queensland; (6) School of Nursing, Midwifery and Paramedicine, University of the Sunshine Coast; (7) Health Care Sciences, The Sahlgrenska Academy, University of Gothenburg, Sweden.

Background: There is increasing interest in workplace pressures on clinical staff in Emergency Departments (EDs), including increased workloads staff shortages, patient numbers and acuity, workplace violence and pressure to adhere to time targets.

Methods: This cross-sectionalal study used a survey assessing clinical staff perceptions of workplace stressors, environment and their coping strategies across two different EDs within QLD. It was distributed in 2015-2016 and analysed using simple descriptive measures.

Results: Despite geographical variation, medical and nursing staff in both EDs (N = 146; response rate: ~65%) had a similar range of gender, age and years of clinical experience. Staff used many coping strategies. Staff reported moderate workload and beliefs in departmental support for their professional growth (self-realization), but low levels of conflict and nervousness or tension. The death or sexual abuse of a child was rated most stressful ED event, followed by workplace violence and heavy workload. Nurses reported slightly higher workload and levels of stress around workplace violence, and the provision of quality care.

Discussion: This is the first multi-site, multi-disciplinary study of QLD ED staff. It showed that stressors and coping strategies were similar across EDs and professional roles. Working environments were generally perceived positively. However, stressors are common and a range of coping strategies are applied. Recently this same survey has been applied to GCHHS staff because there is a need to both understand and to support clinical ED staff to ensure professional longevity and quality service delivery.

Funding Source: EMF

Wednesday 28th November
Themed session 4
On the horizon

Investigation of the mechanisms underlying Mitomycin C induced bladder dysfunction

Eliza West (1), Russ Chess-Williams (1), Catherine McDermott (1)
(1) Health Sciences and Medicine, Bond University

Background: Mitomycin C (MMC) is the most common cytotoxic drug used for intravesical bladder cancer treatment, but 34.5% of patients experience urological
adverse effects including increased urinary frequency, urgency and pain. The effects of MMC on normal bladder function are poorly understood and there are currently no proven treatment options to manage these side effects. This study aimed to determine the effects of intravesical MMC on normal murine bladder function 7-days following treatment. Methods: Aged female C57/Bl6JArc mice (Age 36 weeks, n=4 per group) were randomly allocated into 2 experimental groups (Saline/Control or MMC) and given a 1-hour intravesical treatment with saline or MMC (1mg/mL). After 7 days, a whole bladder preparation was used to assess spontaneous contractile activity, and intravesical pressure changes in response to bladder filling (30µl/min), electrical field stimulation (EFS: 1,5,10, 20Hz) and pharmacological agents. Results: Spontaneous contractions were observed in bladders from both saline and MMC treatment groups, with a higher amplitude and frequency of spontaneous contractions in the MMC compared to the saline treated group. Pressure responses to EFS, the muscarinic agonist carbachol, the purinergic agonist α,βmATP and the β-adrenoceptor agonist isoprenaline were unchanged by MMC treatment. Discussion: An increase in the rate and amplitude of spontaneous bladder contractions may explain the increased frequency and urgency in patients following treatment with MMC. Funding Source: Faculty of Health Sciences and Medicine, Bond University

The relationship between age of tissue and effectiveness of clinical antimuscarinics on inhibiting urinary bladder contractile activity

Eleanor West (1), Russ Chess-Williams (1), Christian Moro (1)
(1) Centre for Urology Research, Faculty of Health Sciences and Medicine, Bond University

Background: Of all patients prescribed antimuscarinic therapy for overactive bladder, those aged under 60 are more likely to discontinue treatment earlier than their older counterparts. This reduced adherence may be attributed to either lifestyle changes or age-related physiological changes, with the latter being of interest. Therefore, the aim was to identify the difference in response to antimuscarinics between young and old bladders.

Methods: Bladders from juvenile and aged pigs were obtained and strips of urothelium and lamina propria (U&LP) and detrusor smooth muscle were isolated and mounted in organ baths with aerated 37°C Krebs. Carbachol concentration-response curves were completed in the presence and absence of selective muscarinic antagonists. Data obtained was analysed and presented as mean±SEM (g).

Results: Juvenile U&LP and detrusor tissue reached peak contractions of 4.5±0.63g (780mM, n=7) and 14.85±2.90g (780mM, n=8) respectively in carbachol concentration-response curves. In the presence of oxybutynin (1µM) present, U&LP contraction was 3.73±0.77g (780mM, n=7) and detrusor 6.03±1.10g (780mM, n=8). Aged U&LP and detrusor reached larger peak contractions of 7.49±0.84g (2342mM, n=8) and 21.55±2.48g (780mM, n=8). With oxybutynin (1µM) present, U&LP and detrusor contracted to 4.78±0.55g (2342mM, n=8) and 9.10±1.77g (780mM, n=7) respectively.

Discussion: Juvenile U&LP and detrusor tissues had heightened contractility, although was not as responsive to oxybutynin. This suggests that the heightened effectiveness of the antimuscarinic on the older tissues is a potential contributor to the increased persistence for treatment regimes in older patients.

Funding Source: Australian Bladder Foundation.

A bioinformatic platform enabling biomedical glycomics and glycoproteomics

Matthew P Campbell (1), Jodie L Abrahams (1)
(1) Institute for Glycomics, Griffith University

Background: Greater integration between disciplines is vital to deal with emerging and complex issues in translational research. The Glycomics Disease Atlas aims to develop a bioinformatics platform for the efficient processing of clinical glycomics and glycoproteomics data, and its integration with gene, protein, and lipid data. Technical advances are accelerating the pace of data-acquisition in glycoscience, but the transformation of data into biological understanding is slowed by its high complexity.

Methods: The Glycomics Disease Atlas focuses on the development of a knowledgebase that aggregates glycomics and glycoproteomics data, as well as disease-related information into a single unified resource. The project uses data accumulated by the Institute for Glycomics cancer and disease programs, cataloguing how the glycome changes with disease progression. The data will be systematically organised with dedicated tools and advanced machine learning algorithms and pipelines to store, search and analyse data.

Results: Initially, the atlas is focused on systematically exploring melanoma glycosylation profiles. By using a melanoma (tissue and cell line) data collection, we are creating a novel cancer knowledgebase that integrates mass spectrometry and glycan structure profiles to assist the identification of molecular signatures, specifically related to the glycosylation pathway that will improve our understanding of cellular glycodynamics implicated in cancer.

Discussion: The project will deliver computational tools that will produce fresh insights into the fundamental
Themed session abstracts

Histamine as a potential mediator in bladder contractile disorders

Zane Štromberga (1), Russ Chess-Williams (1), Christian Moro (1)
(1) Faculty of Health Sciences and Medicine, Bond University

Background: The mechanisms underlying bladder contractile disorders, such as overactive bladder, are not fully understood. It is apparent that release of acetylcholine in involved, however, other mediators and regulator chemicals may also have a potential influence. As such, there is benefit in isolating which receptors are involved in contractile activity. This study aimed to identify the specific influence of the H1, H2, H3 and H4 histamine receptors on urothelial and lamina propria (U&LP) tone and spontaneous activity.

Methods: Strips of porcine U&LP were immersed in Krebs-bicarbonate solution in 10mL organ baths (37°C). Histamine was added to U&LP tissue in the presence and absence of the histamine antagonists pyrilamine, cimetidine and thioperamide. Data was analysed using a paired Student’s t-test.

Results: U&LP contraction increased in the presence of histamine by 1.14±0.3g and frequency by 1.53±0.38 cycles per minute (100µM, n=26). Pyrilamine (30nM, H1 antagonist) inhibited the peak contractile response (p<0.01, n=8) and maintained frequency of spontaneous contractions (p>0.01, n=8). In the presence of cimetidine (1µM, H2 antagonist) maximal contraction to histamine were enhanced (p=0.05, n=10). Although thioperamide (1µM, H3 and H4 antagonist) initially showed a significant increase in contractions (p=0.03, n=6), further analysis revealed no significant effect when H1 and H2 receptors were antagonised.

Discussion: Histamine produces both a contractile and relaxation response in the U&LP. The contraction appears mediated by the H1 receptor, while relaxation is mediated by the H2 receptor. Preliminary data presents these receptors as potential targets in future therapeutic treatments for overactive bladder or other bladder contractile diseases.

Funding Source: Australian Bladder Foundation

Heparan Sulfate Mimetic Compounds in modulating RRV as potential therapies

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(1) Institute for Glycomics, Griffith University; (2) School of Chemistry & Molecular Biosciences; (3) Australian Infectious Diseases Research Centre, University of Queensland

Background: Arthritogenic Alphavirus, such as Ross River virus (RRV) and Barmah Forest virus (BFV), are transmitted by mosquito vectors and cause musculoskeletal manifestations. Patients experience excruciating pain and inflammation of their joints and surrounding muscle tissues. Current treatments for arthritogenic alphaviruses only provide temporary or partial relief.

Methods: Herein, we describe the use of novel HS mimetics for the treatment of RRV induced arthritogenic disease. We evaluated the treatment efficacy of a representative compound in a mouse model of RRVD. We evaluated their joint dysfunction, expression levels of both host soluble factors and components of the cartilage matrix, viral titer and histopathology in viral specific target organs.

Results: Prophylactic compound treated RRV infected mice had significantly reduced viral loads in target organs corresponding to a reduction in their clinical scores of limb weakness and immune infiltrate recruitment. At peak disease, compound treated RRV mice had lower expression levels of host factors IL-6 and CCL-2. In addition, treatment also demonstrated protection in muscle fibres and hyaline cartilage structure.

Discussion: Taken together these findings suggest that the HS mimetic compound may have a direct inhibitory effect on both RRV infection as well as the RRV-induced inflammatory disease in host organisms. This suggests a dual mode of action in its efficacy to treat RRV infection and disease indicating a potential to treat patients who suffer both acute and chronic symptoms.

The lived experience of adjusting to life after stroke on the Gold Coast: How well are we doing?

Kim Walder (1), Matthew Molineux (1)
(1) School of Allied Health Sciences, Griffith University

Background: Despite a growing body of research investigating stroke recovery, less is understood of the survivor experience and implications for practice. Unmet survivor needs suggest there is a mismatch between required supports and what is delivered. Exploring the adjustment process from the survivors’ perspective provides an understanding of issues and outcomes which are relevant to planning patient adjustment services.
Themed session abstracts

Staff perceptions on the role of Music Therapy within Inpatient mental health

Madeline Bridgland (1,2)
(1) Faculty of Medicine, University of Queensland; (2) Mental Health & Specialist Services, Gold Coast Health

Background: Music therapy is an effective form of treatment for people with mental illness, highlighted in the growing evidence base supporting the increased presence of the role within inpatient psychiatric settings (McCaffrey et al., 2011). This study aimed to contribute an insight into the perceptions of staff regarding the role of music therapy within inpatient mental health.

Methods: This qualitative study was conducted with mental health staff across two large hospitals within Gold Coast Health. Recruitment was employed using convenience sampling from the cohort of interdisciplinary team members.

Results: Staff perceptions of music therapy with consumers revealed that music therapy: 1) promotes therapeutic and clinical outcomes, 2) enhances engagement in treatment and recovery, 3) reduces symptoms, and 4) is non-threatening. Within the multidisciplinary team, staff thought that the music therapist: 5) plays an important role in informing assessment and treatment, 6) can facilitate stronger connections with consumer and treating team, and 7) offers a unique perspective. Finally, when describing their understanding of music therapy within inpatient mental health, three themes were revealed: 8) music therapy is an essential part of treatment in mental health, 9) more music therapy is needed, and 10) the music therapist should be a fixed part of the treating team.

Discussion: Though music therapy appears to be understood and valued by staff in this setting, the need for more input from the discipline remains. This indicates that there is still a lack of systemic support for the role within such settings. Further advocacy and education would therefore be best aimed at management in order for the continued growth of the music therapy profession.

Evaluation of the use of the Patient Specific Functional Scale (PSFS) as a goal setting tool within a Rehabilitation Response Service.

Aleksandra Karwaj (1), Deirdre Cooke (2)
(1) Occupational Therapy, Gold Coast Health; (2) Occupational Therapy School of Allied Health, Australian Catholic University

Background: Goal setting as a rehabilitation intervention has been found to achieve better patient outcomes. Historically there has been no formalised approach to goal-setting within the rehabilitation services at the Gold Coast Hospital and Health Service (GCHHS). In May 2016, the Patient Specific Functional Scale (PSFS) (Stevens et al., 2013) was implemented to help formalise goal setting within the Rehabilitation Response Team (RRT) at the GCHHS. It is a brief self-report patient specific measure, designed to detect change in an individual’s perceived functional status (Horn et al., 2012). This study evaluated an implementation trial from patient and clinician perspectives across a range of clinical diagnoses, and will be used to enhance patient-centred care in other inpatient rehabilitation services across GCHHS.

Methods: Semi-structured interviews with eight patients, and a focus group involving five allied health clinicians involved in the acute care rehabilitation service were analysed using a qualitative thematic analysis guided by phenomenological methodology.

Results: Participants found the PSFS useful and beneficial. Three key themes emerged from patient interviews including: (1) “it’s all about me”, (2) “offers direction / motivation”, (3) “gives a reference” and four from the clinician focus group. Clinician themes included (1) “adds value to and scaffolds rehabilitation processes”, (2) “facilitates therapeutic relationship”, (3) “quantifies patient engagement and satisfaction”, (4) “tool is adaptable”.

Discussion: Patient and clinician experiences support the feasibility of the use of the PSFS as a patient-centred goal setting tool within an acute rehabilitation setting.
Listening to music reduces patient anxiety during pleural procedures

John Mackintosh (1), Grace Cone (1), Kathryn Harland (1), Krishna B Sriram (1,2)
(1) Department of Respiratory Medicine, Gold Coast University Hospital; (2) School of Medicine, Griffith University

**Background:** Patients undergoing pleural procedures can experience considerable pain and anxiety. Music has been shown to reduce this morbidity in surgical and other endoscopic procedures. We aimed to prospectively assess the effectiveness of music as an adjunct to reduce pain and anxiety during pleural procedures.

**Methods:** Patients undergoing pleural procedures were randomized to music or control arms. In the music arm patients listened to music via headphones for the duration of the procedure. Anxiety was scored using the State-Trait Anxiety Inventory (STAI) before and after the procedure.

**Results:** 60 participants were equally randomized using the random number generator method. There were no differences in the characteristics of the study participants in the two arms. The pleural procedures were predominantly performed by either senior (63%) or junior (21%) house officers. Malignant pleural effusion (65%) was the most common indication for the procedure. After the procedure was completed, participants in the music group had lower State Anxiety Scores compared to their pre-procedure scores (34±11 vs. 48±13, p<0.001). There was no such difference in the State Anxiety Scores of participants in the Control group (40±11 vs. 42±11, p=0.51). In the music group, there were decreases in the post-procedure heart rate (87±17 vs. 95±15, p=0.04), systolic blood pressure (121±13 vs. 130±16, p=0.02) and diastolic blood pressure (72±8 vs. 78±9, p=0.01).

**Discussion:** Listening to music during pleural procedures significantly reduced anxiety associated with pleural procedures. If the results of our study are replicated in independent studies, music therapy may become standard of care.

Patient participation in bedside handover

Georgia Tobiano (1), Tracey Bucknall (2,3), Ishtar Sladdin (4), Jennifer Whitty (5), Wendy Chaboyer (6)
(1) NMERU, Gold Coast Health; (2) School of Nursing and Midwifery, Deakin University; (3) Alfred Health; (4) School of Allied Health Sciences, Griffith University; (5) Medicine and Health Sciences, University of East Anglia; (6) Menzies Health Institute, Griffith University

**Background:** The aim of this systematic, mixed-methods review was to explore patient participation in nursing bedside handover.

Methods: Three search strategies were undertaken in July-August 2016. To be included, papers could be research or quality improvement (QI) projects. Screening, data extraction and quality appraisal was undertaken systematically by two reviewers. Research studies and QI projects were synthesised separately using thematic synthesis, then the results of this synthesis were combined using a mixed-method synthesis table.

**Results:** Fifty-four articles were included; 21 research studies and 25 QI projects. Segregated synthesis of research of patients’ perceptions revealed two contrasting categories; (1) patient-centred handover and (2) nurse-centred handover. Segregated synthesis of research of nurses’ perceptions included three categories: (1) viewing the patient as an information resource; (2) dealing with confidential and sensitive information; and (3) enabling patient participation. The segregated synthesis of QI projects included two categories: (1) nurse barriers to enacting patient participation in bedside handover; and (2) involving patients in bedside handover.

**Discussion:** Using research and QI projects allowed diverse findings to expand each other and identify gaps between research and heuristic knowledge. Our review showed there is a tension between standardising handovers to make them predictable for patient participation, and promoting tailored and flexible handovers.

**Funding Source:** Australian Research Council

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**Thursday 30th November**

**Themed session 6**

**Innovating service delivery**

Evaluating the use a multisite telehealth group model for persistent pain management for rural/remote patients

Heather Scriven (1), Darren Doherty (2), Elizabeth C Ward (3,4)
(1) South West Hospital & Health Service, St George Hospital; (2) Interdisciplinary Persistent Pain Centre, Gold Coast Hospital & Health Service; (3) Centre for Functioning and Health Research, Metro South Hospital and Health Services; (4) School of Health and Rehabilitation Sciences, The University of Queensland

**Background:** Chronic pain is more prevalent in rural/remote Australia. However, there are numerous barriers limiting access to specialist services. AIM: To evaluate the feasibility of delivering a persistent pain management program via a multisite telehealth group model, through an exploration of clinical outcomes and consumer perceptions to rural individuals.

**Methods:** Participants (n=21) with persistent pain completed 8 hour (4 x 2hr) “Manage Your Pain” function.
Themed session abstracts

programs, delivered via a modified hub and spoke model. The model enabled individuals to connect with the specialist service (hub site; ~600 kms away), and simultaneously engage in real-time, group interactions with participants from multiple remote spoke sites. A battery of standardised pain measures (CPAQA20; BPI; DASS 21; PSEQ20, PROMIS, PGIC) were used to document clinical changes. Technical difficulties were recorded, and a telehealth user perceptions survey and a structured interview were used to examine perceptions of the model.

Results: Results revealed significant (p < 90%) indicated that visual/audio was adequate for the sessions and they found telehealth to be comfortable, convenient and would use telehealth in the future to improve their health. Importantly, interviews revealed participants felt connected, part of a group, and in a shared health experience with other group members through the group model.

Discussion: The telehealth model can assist individuals in a rural context to access specialist persistent pain management services and participate in a group program experience.

Funding Source: Allied Health Research Funding Scheme 2016/17

Rumbidzai Mutsekwa (1), Anthony Whitfield (2), Russell Canavan (2), Alan Spencer (1), Rebecca Angus (1) (1) Nutrition and Food Services, Gold Coast Health; (2) Gastroenterology, Gold Coast Health

Background: New models of care are needed to meet growing demand for gastroenterology specialist services and reduce unacceptably long wait lists, within budgetary constraints. The dietitian-led gastroenterology clinic (DLGC) was one of a number of initiatives to address these concerns.

Methods: The service was evaluated through a mixed methods approach, comprising an audit of gastroenterology waitlists pre- and post-DLGC implementation, calculation of costs for service provision to eligible patients via each model, chart audit of patient characteristics and survey of patient satisfaction with care received.

Results: Pre-post comparison was conducted against a background of rising service demand (25% increase in referrals over the study period). For DLGC-eligible patients, the average wait for service decreased from 160 to 33 days, and the percentage of patients in breach of clinically recommended wait times reduced from 74% (76/103, median breach days = 92) to zero. The flow on effect of medical specialist availability to see more complex and urgent patients was reflected in the reduction in wait time for non-DLGC eligible, general gastroenterology patients from 166 to 70 days. Service provision via the DLGC was costed at less than 60% of average gastroenterologist consultation, based on staff salaries. Additional savings may have been realised in colonoscopy/gastrosopy costs ($1200-1900/procedure), for which most of the 346 new DLGC patients were originally referred. Patient surveys indicated a high level of satisfaction with the service.

Discussion: This DLGC effectively assisted in the management of gastroenterology waitlists. It improved patient access to care whilst displaying significant cost saving potential.

Outcomes of a physiotherapy led pelvic health clinic

Outcomes of a physiotherapy led pelvic health clinic

Zara Howard (1,2), Jennifer Nucifora (1), Amanda Jackman (2), Kristy Corcoran (2), Mischa Bongers (2), Kelly Weir (1,3), Kathy Briffa (2)

(1) Gold Coast Health; (2) Curtin University; (3) Menzies Health Institute Queensland, Griffith University

Background: Allied health first contact models of care have been shown to be effective in providing diagnostic evaluation/management of many patient conditions, improved access to care and reduction in specialist outpatient waiting lists. A Physiotherapy Led Pelvic Health Clinic (PLPHC) commenced at Robina in January 2017 for women on the urogynecology category 3 waiting list. The objectives of this study are to i) document the patient journey, clinical outcomes and patient satisfaction; and ii) compare outcomes for women receiving group versus individual education sessions at the PLPHC.

Methods: This cohort study included women with urinary incontinence or prolapse who completed treatment at the PLPHC between January and September 2017. All participants completed Symptom Questionnaires including the Australian Pelvic Floor Questionnaire (AFPQ) and the Assessment of Quality of Life 6D (AQOL 6D), at initial and discharge appointment; and a satisfaction and Global Rating of Change (GROC) questionnaire on discharge. The initial cohort of women received group education, the second cohort received individual education, and all received one-to-one individualised treatment sessions.

Results: Research data are being analysed and final results will be presented at the conference. Preliminary data suggests improvement in Symptom Questionnaires and high levels of patient satisfaction.

Discussion: This research supports the PLPHC as a cost effective alternative service delivery model with good patient clinical outcomes.

ENT wait times slashed with new allied health service (clinical review)
Themed session abstracts

Vicky Stewart (1), Christopher Payten (1), Jennifer Eakin (1)
(1) ENT, Gold Coast Health

Background: A new Allied Health (AH) model of care service aimed to reduce Ear Nose and Throat (ENT) service demand through first-contact assessment and/or management clinics. The aim of the model was to reduce waiting times for category two and three patients referred to ENT outpatients, and provide access to the right care for patients who could be managed by AH, within clinically recommended timeframes.

Methods: The primary contact, AH model, commenced in May 2016, including advanced Speech Pathology, Audiology and Physiotherapy. ENT waitlists were screened for vestibular dysfunction, symptoms of retrocochlear hearing loss, dysphagia/dysphonia and paediatric ear/hearing concerns. After AH assessment and/or management, patients were either discharged without ENT, or reinstated onto ENT waitlist. Number of patients referred to the service, waiting time reduction, proportion of discharges without requiring ENT, and patient satisfaction were captured across 12 months.

Results: A total of 826 patients were seen between May 2016–July 2017: vestibular-189, dysphagia/dysphonia-255, paediatrics-322, retrocochlear-60 (commenced March 2017). Waiting times for category two and three ENT referred patients reduced from an average of 642 days to 57 days with the implementation of the AH model. 70% were discharged with no ENT required. Patients were satisfied with the service scoring 4.6/5 on a patient satisfaction survey (n=178).

Discussion: The AH model has achieved a reduction in the number of patients requiring ENT specialist appointments, improved access to appropriate AH and/or ENT healthcare service, reduced waiting times for patients referred to ENT and achieved high level of patient satisfaction.

Implementing Cough Reflex Testing in a clinical pathway for acute stroke: A pragmatic randomised controlled trial

Makaela Field (1), Rachel Wenke (1,2), Melissa Lawrie (1,2) Armen Sabet (3), Elizabeth Cardell (4)
(1) Speech Pathology Services, Gold Coast Health; (2) School of Allied Health Sciences, Griffith University (Academic Title); (3) Neurology, Gold Coast Health; (4) School of Allied Health Sciences, Griffith University

Background: Silent aspiration, whereby food or fluid enters the airway without a cough response, is common after stroke and can lead to pneumonia. Standard bedside swallowing assessments are ineffective at predicting silent aspiration, however Cough Reflex Testing (CRT) has shown promise for identifying patients at risk of silent aspiration. We investigated the impact of CRT on patient and service outcomes when embedded into a clinical pathway for acute stroke patients.

Methods: Using a randomised controlled trial design, 488 acute stroke patients were randomly allocated to receive either CRT or standard care (i.e., bedside assessment). Primary outcomes included confirmed aspiration pneumonia (AP) within 3 months post stroke and length of acute inpatient stay. Secondary outcomes related to the feasibility of implementing a CRT pathway and clinician and patient satisfaction.

Results: There was a non-significant 3.5% reduction in AP rates in the CRT group across all stroke types. AP was however significantly reduced by 8.5% (CI 95% 0.02-0.17) for patients with cortical strokes. The CRT took on average 3 min longer to complete (p<0.00) and resulted in a 6.7% increase in videofluroscopic referrals. High patient and clinician satisfaction with CRT was found, with clinicians reporting additional knowledge and confidence in decision making for dysphagia management.

Discussion: Implementing a CRT pathway reduced overall rates of AP, being most beneficial for patients following a cortical stroke. Benefits in clinical decision making and minimal increases in clinician resources suggest that implementing a CRT pathway may be a useful addition for clinical bedside swallowing assessments for acute stroke patients.

Funding Source: Gold Coast Health- Improvers

Transitioning from multi-bed rooms to single-bed rooms: Implications for nursing workloads

Samantha Clayton (1)
(1) Magnet Program, Gold Coast Health

Background: Single-bed rooms are becoming increasingly popular in healthcare design, however there are limited studies exploring the implications for this design on nursing work. This study aimed to explore the experiences and perceptions of nurses following the transition from a hospital with multi-bed rooms to one with majority single-bed rooms.

Methods: Four focus groups were conducted with nursing staff working in inpatient units. Participants were asked to discuss the implications of single-bed rooms on nursing workloads, and whether any measures had been put in place to manage these implications.

Results: Participants in all focus groups identified challenges with increased walking distances; poor visibility and surveillance of patients; reduced teamwork and communication; and concerns for staff safety due to isolation in single-bed rooms. Heightened patient expectations and a sense of entitlement for single-bed rooms led to increased work for nurses to manage patient complaints and patient allocation priorities.
Discussion: Single-bed rooms create a sense of isolation for nursing staff, leading to poorer communication and concerns for staff safety. Measures to improve communication following a change in ward design may assist in promoting teamwork and reducing isolation, creating a safe and supportive workplace for nurses. Ward layout increases nurses’ work in relation to walking, searching for colleagues and monitoring of patients therefore a well organised workplace aimed at increasing direct care time with patients is critical to optimising patient care and reducing nursing workloads.

Implementation of early in-reach Rehabilitation at a tertiary referral university hospital - initial one year experience

Kate Marconi (1), Aleksandra Karwaj (1), Katherine Francis (1)
(1) Gold Coast Health

Background: To describe the development and implementation of a new clinical rehabilitation intervention for medical and surgical inpatients at Gold Coast University Hospital. This service provides multidisciplinary in-reach rehabilitation management on the acute wards prior to the conclusion of the acute episode of care. Principle aims of this service are to reduce overall length of stay; improve function at discharge from hospital; reduce deconditioning; and facilitate comprehensive discharge planning within a shared care model between rehabilitation and acute therapists.

Methods: A one year review on the new model of care has been undertaken. Outcomes include demographic data, length of stay, functional independence measure (FIM) efficiency scores, patient centred goal setting (PSFS) results, mobility/balance outcome measures (DEMMI), challenges and future directions will be discussed

Results: One year analysis demonstrates 746 referrals to RRT, 437 accepted patients, Length of stay average 7.58 days; patient types based on AROC classification: 37% orthopaedic, 9% multitrauma, 6% neurological, 13% other. FIM outcomes indicate positive improvements in function with a FIM efficiency of 2.12. DeMMI outcomes demonstrate improvement from admission to discharge. Patient goals using PSFS demonstrate improvements in self rating of achievement of goals from admission to discharge.

Discussion: RRT has been successful in improving functional outcomes of patients, reducing the need for inpatient rehabilitation and reducing length of stay in hospital.

Thursday 30th November
Themed session 7
Exploring health systematically

β-lactams combined with single daily aminoglycoside administration in the management of serious gram-negative bacterial infections: A systematic review and meta-analysis

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Background: Combining aminoglycosides with β-lactam antibiotics for treating serious gram-negative infections is controversial. Several meta-analyses have failed to demonstrate a mortality benefit of the combination, instead suggesting increased nephrotoxicity risk. However, these analyses were based primarily on studies investigating multiple daily dosing regimens of aminoglycosides. The aim of this work was to compare patient outcomes between β-lactam monotherapy and a combination of a β-lactam and single daily dosing aminoglycoside regimens.

Methods: A systematic review and meta-analysis of clinical trials was performed in accordance with PRIMSA guidelines. Studies were included if they compared β-lactam monotherapy with a combination of a β-lactam and an aminoglycoside given once daily, in patients with presumed or confirmed serious gram-negative infections. Study quality was assessed using the PEDro and Newcastle-Ottawa scoring systems. The end points for outcome analyses were all-cause mortality, clinical cure and nephrotoxicity.

Results: Two randomised controlled trials and 5 retrospective cohort studies were included. Compared to β-lactam monotherapy, combination therapy was associated with reduced mortality (n=2800, relative risk (RR) 0.86, 95% confidence interval (CI) 0.75-0.99, p=0.04, I2 45%), but not improved clinical cure (n=124, RR 1.06, 95% CI 0.75-1.50, p=0.08, I2 67%). Nephrotoxicity rates did not significantly increase (n=1288, RR 1.33, 95% CI 0.91-1.96, p=0.15, I2 0%). No publication bias was evident on funnel-plot visual inspection.

Discussion: This systematic review and meta-analysis suggests that critically-ill patients with gram-negative infections receiving combination therapy may have reduced mortality, without increased nephrotoxicity. Large randomised controlled trials are warranted to describe definitive outcome benefits.

A call for age friendly communities: Examining the potential of Intergenerational Care Programs in the Australian setting
Background: Intergenerational care programs provide care and social support for older adults and children in the same setting. The psychological benefits are well documented; however, little is known about the business case behind creating an intergenerational care program in Australia.

Methods: The research involved three separate studies. Study 1 reviewed Australian legislation and regulations in relation to childcare and aged care. Study 2 investigated the feasibility of intergenerational care models based on a review of existing interventions globally, by conducting 25 interviews of experts in the field, and surveying over 850 members of the public to determine their willingness to pay. Study 3 reviewed the workforce needs and possible curriculum overlaps to create a feasible intergenerational care program.

Results: Findings suggest that intergenerational care programs can fit the legislative framework in Australia, however some considered thought is needed to match the workforce and building requirements. In addition, there is an opportunity to develop a new educational framework designed specifically to offer meaningful reciprocal interactions between older adults and children, and create new career paths connecting child care and aged care certifications between the two workforces. Furthermore, there is an established demand for intergenerational care among the Australian community.

Discussion: Sustainable business models can exist for intergenerational care, which will provide consumers with a wider range of formal care options that better suit the diverse care needs of Australians.

Funding Source: Study 1: Review of Australian legislation and regulations was funded by Hornsby-Ku-ring-gai Health Service.

Bone-specific Physical Activity Questionnaire (BPAQ) scores are associated with DXA-derived 3D parameters of bone geometry

Benjamin K. Weeks (1), Conor Lambert (1), Amy T. Harding (1), Steven L. Watson (1), Sally F. Dzera (1), Rossana C. Nogueira (1), Belinda R. Beck (1,2) (1) Menzies Health Institute Queensland, Griffith University; (2) The Bone Clinic, Brisbane

Background: The bone-specific physical activity questionnaire (BPAQ) was developed to account for the lifetime influence of habitual mechanical loading on the skeleton. We have shown that BPAQ scores predict DXA-derived bone mass at clinically important sites; however, their relationship to morphometric bone parameters remains unknown.

Methods: Healthy adults from the local community underwent proximal femur DXA scans (Medix DR, Medilink) and completed the BPAQ. Scans were analysed using novel 3D software (DMS Group, France) to derive cortical and trabecular volume and cortical thickness at the femoral neck (FN) and total hip (TH).

Results: A total of 234 participants were recruited (53.6 ± 19.1 yrs, 167.7 ± 9.3 cm, 71.5 ± 15.2 kg), of whom 33.3% were men (n = 78). Participants in the highest BPAQ tertile exhibited more robust parameters of bone geometry than the lowest BPAQ tertile for trabecular volume (FN = 12.78 ± 3.38 cm3 vs. 10.95 ± 2.46 cm3; TH = 75.36 ± 18.66 cm3 vs. 63.43 ± 14.43 cm3, p<0.001), cortical volume (FN = 2.14 ± 0.58 cm3 vs. 1.73 ± 0.44 cm3; TH = 13.57 ± 3.42 cm3 vs. 11.06 ± 2.54 cm3, p<0.001), total volume (FN = 14.90 ± 3.85 cm3 vs. 12.69 ± 2.77 cm3; TH = 88.92 ± 21.60 cm3 vs. 74.63 ± 16.55 cm3, p<0.001) and total cortical thickness (FN = 1.11 ± 0.20 mm vs. 0.99 ± 0.19 mm, p<0.001).

Discussion: Lifetime bone-relevant physical activity estimated by the BPAQ is associated with more robust bone geometry at the proximal femur.

Using family members as medical interpreters: An exploration of healthcare practitioner’s normative practices in Pediatric units in Australia

Rachyl Pines (1), Nicola Sheeran (2,3), Liz Jones (2,3) (1) University of California, Santa Barbara; (2) School of Applied Psychology, Griffith University; (3) Maternity, Family and Newborn Research Group, Menzies Health Institute Queensland

Background: Health professionals (HP) in Australia are predominantly English-speaking and are increasingly having to treat patients who may require an interpreter. While policy suggests that family members should not be used for medical interpretation except in medical emergencies or for “simple day-to-day communications” when no other translator is available, little is known about actual practice. Further, recent research suggests that there are valid reasons why family members could and perhaps should be used. The current study investigated when health professionals feel it is valid to use family members as interpreters and what characteristics of family members health professionals believe make them suitable to act as interpreters.

Methods: A range of health professionals (n=71) working in paediatric and newborn care units at GCUH completed a conversational verbal protocol, which elicited health professionals beliefs about interpreter suitability and decision making processes. Interviews were thematically analysed.

Results: Results suggested that HP’s feel it is valid to use family members in specific situations (i.e. acute) and for specific information, or if the family member meet...
certain criteria. Characteristics of family members that justified their use as interpreters included age, gender and relationship to the patient, perceived cultural issues, English proficiency and medical understanding. Despite most practice being in line with policy, staff reported limited knowledge of what the policy stated and feared using family as interpreters.

**Discussion:** Clarifying when HP’s can use family members may increase their confidence in their practice, thereby improving their delivery of care to patients with low English proficiency.

**Functional evaluations of synephrine and octopamine - stimulants in pre-workout supplements**

Andy Hsien Wei Koh (1), Russ Chess-Williams (1), Anna Elizabeth Lohning (1)

(1) Faculty of Health Sciences and Medicine, Bond University

**Background:** Pre-workout supplements usually contain stimulatory botanical extracts for improved athletic performance. The rise in popularity of these supplements correlates with increased adverse health reports. The biogenic amines synephrine and octopamine - found in plant extracts can increase blood pressure. However, the mechanisms involved in the vascular effect of these biogenic amines have not been fully established. The purpose of this study was to evaluate whether vasoconstrictions were caused by synephrine and octopamine acting as indirect sympathomimetic agents (releasing the neurotransmitter, noradrenaline (NA)) - similar to tyramine, or whether these amines act directly on α-adrenoceptors.

**Methods:** The responses to synephrine and octopamine were investigated in vitro in rings of inferior mesenteric arteries of pigs.

**Results:** Synephrine (pEC50= 3.78 ± 0.21; n=6) was a more potent vasoconstrictor (p<0.05) than octopamine (pEC50= 3.25 ± 0.21; n=6). After depleting NA from the tissues, the maximum response for synephrine decreased by 67% (p<0.05), and its potency decreased (pEC50= 3.56 ± 0.18; n=4). However, neither the maximum contraction for octopamine nor its potency were affected by NA depletion (pEC50= 3.48 ± 0.26; n=4).

**Discussion:** The vasoconstriction induced by synephrine involves an indirect sympathomimetic pathway, whereas octopamine is likely a direct agonist at vascular α-adrenoceptors. These stimulants coupled with caffeine and strenuous exercise could explain the increase in adverse cardiovascular-related reports. Although synephrine is somewhat regulated in Australia, octopamine is an unregulated substance that is increasingly added to commercially available pre-workout supplements. Understanding the effects of these amines could lead to regulations of dietary supplement to protect vulnerable consumers.

**Manipulation under anaesthetic after total knee replacement: A systematic review and meta-analysis of prevalence and risk factors.**

Timothy Walker (1), Helen Cooper (2), Christopher Smith (3), Adam Semciw (4)

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**Background:** Knee Range Of Movement (ROM) post Total Knee Replacement (TKR) is an important goal for functional mobility and up to 20% of patients may not achieve this goal with knee flexion <90. If left untreated patients may continue to have reduced functional mobility including their daily living activities and diminished satisfaction. Manipulation under anaesthesia (MUA) is often considered as a treatment to improve post-operative stiffness following Total Knee Replacement (TKR). MUA requires readmission to hospital and LOS up to 5 days. The purpose of this systematic review is to identify the prevalence of MUA post TKR and the pre-operative risk factors.

**Methods:** Systematic Review. Search of 4 databases: Ovid Medline, Embase, CINAHL, and Cochrane. Inclusion Criteria: Human, All age groups, All Patients undergoing Total Knee Replacement or Revision TKR, Bilateral or Unilateral TKR +/- Patella resurfacing, All Prosthetic component Brands, All Patients having TKR for any reason (eg RA,OA etc). Exclusion Criteria: Unicompartimental Knee Replacements, Non English articles.

**Results:** 1181 Records were identified and 607 were screened after duplicates were removed. 137 full text articles were reviewed after screening. The Prevalence of MUA post TKR is 4.87 events/100. Meta-analysis of pre-operative risk factors including Gender, Age, Pre-operative knee flexion and BMI will be presented.

**Discussion:** Identifying higher risk patients for MUA post TKR may result in targeted pre-operative and post-operative medical and physiotherapy models of care.

**Time to let the CAT out of the bag? Comparison of static and computer adaptive testing (CAT) short forms to full length measures in persistent pain**

Karl S Bagraith (1,2), Jenny Strong (2), Pamela J Meredith (2), Steven M McPhail (3,4).

(1) Interdisciplinary Persistent Pain Centre, Gold Coast Hospital and Health Service; (2) Occupational Therapy, School of Health and Rehabilitation Sciences, The University of Queensland; (3) Centre for Functioning and Health Research, Queensland Health; (4) Institute of Health and Biomedical Innovation and School of Public Health & Social Work, Queensland University of Technology
**Background:** To investigate whether measures of activity limitations and participation restrictions with sound internal construct validity could be derived from patient ratings of the International Classification of Functioning, Disability and Health Low Back Pain Core Set (LBP-CS).

**Methods:** The LBP-CS Self-Report Checklist (LBP-CS-SRC) was developed to permit patients to self-rate their functioning according to an extended set of activity and participation categories from the LBP-CS. Rasch analysis was employed to examine the validity of the LBP-CS-SRC with a sample of 308 adults with chronic LBP attending two tertiary-referral outpatient services in Brisbane, Australia.

**Results:** The activity limitations and participation restrictions qualifier scales functioned satisfactorily, and the LBP-CS-SRC person response validity was good. Following deletion of six misfitting items, the dimensionality results supported employing the instrument as distinct measures of activity limitations (17 items) and participation restrictions (10 items). The activity and participation measures both had good person separation reliability and no component items exhibited meaningful differential item functioning.

**Discussion:** The results demonstrate that measures of activity and participation with sound internal construct validity can be derived from patient ratings of LBP-CS categories. The LBP-CS-SRC can be used in clinical practice and epidemiologic research to support understanding of patients’ perspectives on functioning.

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**Simulation training for disaster management:**

**Multidisciplinary simulation enhances preparedness of GCUH emergency response staff**

Amy N B Johnston (1,2), Amy Sweeney (1,3), Peter McNamee (1), Nathan Watkins (1), Tonya Donnelly (1), Michael Aitken (1,2)

(1) Department of Emergency Medicine, Gold Coast Health; (2) Menzies Health Institute Queensland, Griffith University; (3) Emergency Medicine Foundation

**Background:** Mass gatherings such as the 2018 Commonwealth Games require planning and training to manage potential clinical impacts arising from natural and instigated disasters. There is, however, little evidence supporting the use of simulation to enhance preparedness for disasters. This study examined an ‘EMERGO’ simulated-disaster exercise hosted at GCUH, tracking patient management (flow) and changes in the preparedness of a multidisciplinary hospital-wide emergency response team.

**Methods:** A cross-sectional matched pre-post survey design, supplemented by an open ended evaluative post-simulation questionnaire was used. Surveys explored self-rated preparedness and wider perceptions of the disaster management processes. Changes in self-rated capacity were explored statistically and thematically. Real time manual data capture of simulated patient tracking was also examined.

**Results:** A total 51/88 participants, 45 in clinical roles, completed both the pre-survey and the post-survey (58% response rate). There was a large and statistically

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**Themed session abstracts**

Students completed the NPS-NIMC prescribing module as prereading. The pharmacy clinical educator, pharmacy intern and medical education officer facilitated each workshop, focussing on a clinical case and safe prescribing practices. Students completed the medication chart as part of the patient’s management plan. Students self-evaluated their prescribing knowledge and confidence via open questions and Likert scale rating (1–strongly disagree to 5–strongly agree) pre and post workshop.

**Results:** 80% of participants (38/47) strongly agreed the workshop had improved their understanding of safe prescribing and informed their future practice. Prior to the workshop 42% (20/47) agreed/strongly agreed, they felt confident in their ability to prescribe common medications safely. Post workshop this increased to 91%. Statements suggested the workshop’s interactive format was engaging and of educational value.

**Discussion:** Hospital based Pharmacist lead prescribing workshops can be a valuable clinical education tool for medical students, assisting with prescribing preparedness upon graduation and employment. Given the results, future workshop delivery is being considered.

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Evaluating the feasibility and educational value of a multi-faceted safe prescribing workshop for medical students on placement

Christine Sly (1), Nallini McCLEEryy (2)

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**Background:** Prescribing medications is central to effective medical practice, yet new medical graduates report feeling underprepared. Prescribing education in university curriculum tends to be based on National Prescribing Service (NPS) National Inpatient Medication Chart (NIMC) modules. However, there is little contextualized hospital based prescribing education.

**Objective:** To evaluate the educational value and impact of an interactive case based prescribing workshop during clinical placement on medical student’s prescribing self confidence.

**Methods:** A one hour interactive prescribing education workshop was delivered to Year 4 (of 5) medical students during their hospital clinical placement.
significant positive change in self-assessed ‘role’ confidence, followed in size by positive changes in simulation-associated ‘role’ knowledge and then ‘role’ skills. Thematic analysis of open ended data suggested communication, resource access and clear processes were key staff requirements. Patient tracking data primarily showed typical and expected patterns of flow.

**Discussion:** These findings suggest that simulation improves staff preparedness for hospital-wide emergency responses to mass casualties. It demonstrates that simulation is a useful process for testing and improving our disaster management plan by evaluating our resources, patient flow under pressure.

**Enhancing students’ feedback literacy in the workplace: A learner-centred approach**

Christy Noble (1,2), Stephen Billett (2), Joanne Hilder (1), Christine Sly (1), Leigh Collier (1), Lyn Armit (1), Elizabeth Molloy (3)

(1) Gold Coast Health; (2) Griffith University; (3) University of Melbourne

**Background:** Effective feedback can improve students’ performance on clinical placements. Students want more feedback on their placement performance. Until now, the students’ role in feedback processes has been overlooked with most educational interventions focusing on educators’ skills in ‘feedback delivery’. Addressing learners’ roles in feedback - offers opportunities to improve clinical placement experiences, and support transitions to practice. This study aimed to explore how students engage with feedback processes while on placement and to evaluate an educational intervention designed to augment students’ feedback engagement during and after their clinical placements.

**Methods:** The learner-centred feedback model, Feedback Mark 2 (Boud & Molloy, 2013), formed the basis of a multifaceted intervention to support students’ engagement in feedback processes. An interprofessional student group (n= 105) engaged in the intervention including an e-learning module, a face-to-face workshop and a reflective journal. Evaluation included surveys, immediately post workshop, and interviews (n=28) after students’ placement experience.

**Results:** Analysis of the data indicated the intervention contributed to improved student understanding of their role in feedback processes which they had not previously considered. Students reported being actively engaged in feedback both during placement and as a result received better quality and quantity feedback on their practice. Students attributed these changes in their feedback approach to being comfortable in requesting feedback and in clarifying strategies to improve their work.

**Discussion:** These findings highlight that engaging students in the feedback process makes an important contribution to improving placement learning. This interprofessional intervention could be applied in other settings to improve learner engagement in feedback.

**Funding Source:** Office of Learning and Teaching, Federal Government

**Learning program: Pharmacists as supervisors of Junior Doctors**

Brooke Bullock (1), Christy Noble (1)

(1) Medical Education Unit, Gold Coast Health

**Background:** Prescribing is a complex task which is often undertaken by Junior Doctors (JDs). Pharmacists work closely with JDs and are ideally placed to supervise prescribing learning however have limited formal supervision education. We aimed to design, deliver and evaluate a program to introduce pharmacists to the theory and practice of clinical supervision with a focus on learning facilitation for JDs prescribing in the clinical setting.

**Methods:** A 3 part workshop series was designed to enhance JD learning in the clinical setting, provision of meaningful feedback and orientating and setting expectations for junior doctors. Each module included pre workshop activities, reflection activities and questions regarding their preconceptions about supervision. Participant perceptions were collected prior and the program was evaluated by participant survey at 6 months post completion.

**Results:** Sixteen pharmacists were selected to participate with clinical experience ranging from 1.5 to 7 years. Participants’ pre perceptions acknowledged having few opportunities to develop as learning facilitators and limited understanding of educational strategies. All participants expressed interest in developing their capacity as clinical supervisors. A 6 month follow up survey was completed by 8 participants who had been working in a range of clinical areas since program completion. All participants indicated that they had applied new knowledge to JD training. This was demonstrated a reported increased engagement with feedback provision and providing more one-on-one prescribing guidance. Challenges experienced in applying learnings included time limitations and requiring further experiences in providing feedback

**Discussion:** The program pilot was a success and the program will run again in August 2017.

**Evaluating the transition, wellbeing, and retention of allied health new graduates**

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(1) Gold Coast Hospital and Health Service; (2) School of Organisational Psychology, Griffith University; (3) School of Allied Health Sciences, Griffith University
**Themed session abstracts**

**Background:** Past research indicates that high proportions of graduates within ‘applied’ professions report being simultaneously highly engaged and under-pressure in early years of employment, causing adverse health and performance outcomes, such as burn-out. Our study evaluated early career experiences of allied health new graduates, focusing on determinants of their psychological health while transitioning into clinical practice.

**Methods:** Mixed-methods research design. Study 1: semi-structured interviews of a representative sample of new graduates and their supervisors (n=22). All interviews were recorded and transcribed verbatim. Thematic analysis was used to identify key issues. Study 2 (currently running): hospital-wide online survey of allied health new graduates. Incorporating key themes from Study 1, this survey evaluates how new graduates manage transition into work environment. Statistical analyses via structural equation modelling (SEM) will identify trajectories in health and wellbeing including key early experiences that precipitate the trajectory.

**Results:** Preliminary results indicate that new graduates face challenges around: job stability, conflicting time demands, busy caseloads, rapid learning of numerous computer systems and work procedures. Lack of confidence in their own clinical reasoning and the need for better understanding of working in highly structured, hierarchal organisation was also stated. Moreover, they frequently pointed to insufficient collective understanding/support for the allied health roles within the interprofessional practice environment.

**Discussion:** Organisations can provide better job stability and targeted skill development for new graduates, who would also benefit from education around resilience, self-care and practical ways on developing effective working relationships. Additionally, curriculum improvements around establishment of realistic expectations of employment demands post-graduation are warranted.

**Funding Source:** Menzies Health Institute Queensland Seed Grant funding

**Improving videofluoroscopic swallow study interpretation in radiology registrars through a targeted training package: A prospective cohort study**

Leah Coman (1), Elizabeth Cardell (2), John Richards (3), Amanda Mahon (4), Melissa Lawrie (5), Robert Ward (6), Kelly Weir (4)

(1) Speech Pathology GCH & Allied Health Sciences, Griffith University; (2) School of Allied Health Science & Menzies Health Institute Queensland, Griffith University; (3) Medical Imaging Department, GCH; (4) Medical Imaging Department GCUH; (5) Speech Pathology GCH; (6) Biostatistics, Menzies Health Institute Queensland, Griffith University; (4) School of Allied Health Sciences/Menzies Health Institute Queensland, Griffith University & Gold Coast Health

**Background:** A videofluoroscopic swallow study (VFSS) is an interdisciplinary fluoroscopic procedure to evaluate structure, function and pathophysiology of the swallowing mechanism for people with dysphagia. Whilst the speech pathologists conducting VFSS undergo competency training programs, radiology registrar training is often ‘ad hoc’ with no specific training to criteria for interpretation. This study aims to develop and evaluate the effectiveness of a VFSS training package targeted at radiology registrars including: (i) a national online survey of knowledge and practice for radiology registrar training in VFSS, and (ii) development and evaluation of a registrar-targeted VFSS training package. An overview of the full study and preliminary results of a national survey of radiology VFSS training will be presented.

**Methods:** A purposive survey of practice was developed for radiologists and speech pathologists who regularly conduct VFSS to investigate information considered essential for inclusion in a registrar competency training program. Questions included: respondent training level, institution (level, acuity, hospital/private practice, geography), speech pathology-led vs radiology-led VFSS service, age of patients (e.g. preterm – geriatric), staff roles, training content, mode of delivery, time/hours taken, reporting requirements, measures of ‘competency’, and what is considered ‘best practice’ training. The survey was conducted online using Survey Monkey and distributed to medical imaging departments throughout Australia.

**Results:** Survey results will be available at time of the conference.

**Discussion:** In the absence of evidence-based literature regarding best-practice registrar training programs for VFSS interpretation and reporting, a survey of professional practice has informed the future development and evaluation of a training program.

**Funding Source:** Gold Coast Health Improvers Grant

**Investigations of Calcium metabolism in Type 1 Myotonic Dystrophy (DM1)**

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(1) Department of Internal Medicine, Princess Alexandra Hospital; (2) Department of Internal Medicine, Logan Hospital; (3) School of Medicine, University of Queensland; (4) School of Medicine, Griffith University

**Background:** Patients with DM1 have a higher incidence of hypercalcaemia compared to the general population. The nature and effects of dysregulated calcium metabolism underpinning this phenomena have not been fully characterised.
**Themed session abstracts**

**Methods:** Retrospective review of medical records of patients with DM1 attending a DM clinic at Logan Hospital between October 2005 and January 2017 and who each had concurrent serum assays performed of corrected calcium(cCa), 25 hydroxyvitamin D(25 VitD), parathyroid hormone(PTH), phosphate(PO4), and for whom results were available for estimated glomerular filtration rate(eGFR), and bone mineral densitometry(BMD) tests. 24 hour urine calcium level was done in some patients concurrently.

**Results:** Thirty two patients with DM1 (16 females, 16 males) were reviewed of whom eight(25%) had elevated cCa and elevated PTH consistent with primary hyperparathyroidism(PHP). Another ten patients(31.3%) had raised PTH with normocalcaemia consistent with early PHP. Eight of these eighteen(44.4%) patients collected 24 hour urine calcium level. Seven of these eight patients had a low 24 hour urinary calcium level with one result within normal range. In all 32 cases, only three(9.4%) had borderline low 25 VitD, two(6.3%) had low PO4. All patients had normal eGFR and none were osteoporotic on BMD tests.

**Discussion:** One in four patients with DM1 were hypercalcaemic with PTH levels consistent with PHP but no evidence of osteoporosis and their 24 hour urine calcium level was significantly low which mimics Familial Hypocalciuric Hypercalcaemia(FHH). An insensitive calcium sensing receptor, due to aberrant splicing of it’s messenger RNA, is a possible explanation.

**Relationship between heart rate variability and sedation levels in brain injured and non-brain injured intensive care patients**

Matthew Collocott (1,2), John Headrick (1,2), Brent Richards (1,2), Luke Haseler (3), Tegan Roberts (1,2)
(1) Griffith University; (2) Gold Coast University Hospital; (3) Curtin University

**Background:** This study explores the relationship between heart rate variability (HRV) and measured levels of sedation in intensive care unit (ICU) brain injured and non-brain injured cohorts. These results intend to contribute to the elevation of efficient and accurate sedation level monitoring of intensive care patients. This leads to improved patient outcomes, reduces their length of stay and minimises ICU running costs.

**Methods:** 24-hour electrocardiogram (ECG) recordings were collected from traumatic brain-injury patients and non-brain injured patients, who had length of stays ≥2 days. Collection of patient sedation level scores (RASS Scores) were collected and recorded retrospectively from the GCUH ICU online database Metavision. ECG files were manually sorted and curated for removal of cardiac arrhythmias that disrupt HRV analysis – such as ectopic heart beats. This was done using HRV software, Kubios, version 2.2. HRV parameters were collated and examined for correlation with sedation scores using IBM’s SPSS Statistics 24.

**Results:** A total of 20 ICU patients were analysed in this study. Of these, 10 were in the TBI cohort and 10 in the non-brain injured cohort. It was apparent that increased HRV was exhibited in patients who were in ‘awake’ states, whereas deeper levels of sedation reduced HRV parameters and increased patients’ mean heart rate.

**Discussion:** HRV can potentially be used to monitor and predict sedation levels. It has the potential to eliminate the requirement of subjective sedation scales, elevating the gold standard of sedation monitoring and reducing work-loads placed on nursing staff.

**Balloon aortic valvuloplasty for congenital aortic stenosis: A 14 year single centre review**

Ben Auld (1,2), Lindsay Carrigan (2), Cameron Ward (2), Robert Justo (2), Nelson Alphonso (2), Ben Anderson (2)
(1) School of Medicine, Griffith University; (2) Queensland Paediatric Cardiac Service, Lady Cilento Children’s Hospital

**Background:** To investigate associations with freedom from re-intervention in our cohort of children who underwent primary balloon aortic valvuloplasty (BAV) for congenital aortic valve stenosis (AS). Rates of re-intervention with BAV differ depending upon a center’s bias towards a primary catheter or surgical approach.

**Methods:** In 64/72 patients who underwent BAV between 2001 and 2015, BAV was the primary intervention. Follow up was available in 60/64. Mean LOF was 2.96yrs.

**Results:** BAV was performed at a mean age of 143 days (2 days - 18.8 years). 45/60 patients were free from re-intervention with a follow-up of 177 patient years. Catheter-based aortic valve gradients decreased from 58mmHg (± 15.9) to 22.9mmHg (± 13.1). There was no short or long term mortality. Freedom from re-intervention (FFI) was predicted by aortic valve morphology (p <0.01), post-BAV mean echo gradient (p 0.03) and post-BAV regurgitation (p <0.01). No patient had re-intervention for restenosis with post-BAV mean echo gradient <30mmHg. Catheter gradients before and after BAV approached significance (p 0.06 and p 0.09 respectively). 15/60 were neonates with significantly lower AoV Z-scores (mean 0.63 vs 1.76, p 0.002) and no difference in FFI (p 0.19). Annulus size, balloon/annulus ratio and pre-BAV echo findings were not predictive for re-intervention.

**Discussion:** Balloon aortic valvuloplasty is an effective primary approach to congenital valvar AS with the potential of avoiding surgical intervention in the majority of patients at all ages. Freedom from re-intervention in our cohort was associated with the degree of valve function immediately post BAV.
Cardiac and respiratory dysfunction in myotonic dystrophy type 1 patients

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**Background:** Cardiac and respiratory dysfunction are common in patients with Myotonic Dystrophy type 1 (DM1). Abnormalities include arrhythmias, ventricular dysfunction, restrictive lung disease and chronic alveolar hypoventilation.

**Methods:** 29 patients were prospectively evaluated clinically, genetically and with ECG, 24-hour holter monitoring, transthoracic echocardiogram, Cardiac MRI (CMR) and respiratory function tests (RFT). Patients with symptomatic cardiac failure and implantable cardiac devices were excluded. Muscle weakness was graded using the Muscular Impairment Rating Scale (MIRS).

**Results:** Mean age 42 ± 13.2 years, 62% male. ECG abnormalities included sinus bradycardia (41.4%), atrial flutter (3.4%), PR interval >200msecs (37%), QRS duration>120msecs (20.7%) and QTc >450msecs (13.8%). Echocardiogram showed LV Ejection Fraction (LVEF) < 55% (10.3 %), grade 1 diastolic dysfunction (10.3 %), CMR LVEF was <55% (45%). RFT abnormalities: Forced Vital Capacity (FVC) <80% predicted (65%), MIP (Maximal Inspiratory pressure) and MEP (Maximal expiratory pressure) <50% predicted (58% and 88% respectively). FVC correlated with age (-0.398, p=0.044) and MIRS (-0.592, p=0.001). The group with MEP <50% had significantly higher MIRS (Z=-2.044, p=0.041). 22% of patients had a base excess ≥4.0 and 9% had bicarbonate level >33mmol/L.

**Discussion:** In DM1 patients: • Cardiac and respiratory dysfunction is common •Increasing age and muscle weakness correlates with worsening cardiac and respiratory disease.

**Funding Source:** Griffith University Research Funds of Professor Rick Jackson.

Nutrition outcomes for patients receiving radiotherapy to the head and neck

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(1) Health Sciences & Medicine, Bond University; (2) Gold Coast University Hospital; (3) Radiation Oncology Centres

**Background:** Despite the high prevalence of acute, uncomplicated diverticulitis there has been little original research regarding its dietary management upon presentation to acute care. Due to the lack of evidence and conflicting clinical guidelines, practice varies widely between physicians, but frequently involves a combination of bowel rest and liquid diets hypothesised to decrease patient symptoms and promote recovery.

**Influence of inpatient dietary restriction on acute uncomplicated diverticulitis: A pilot observational study**

Megan Crichton (1), Camilla Dahl (1), Julie Jenkins-Chapman (2), Romina Nucera (2), Yvonne Chen (2), Kayla Russell (3), Skye Marshall (1)
(1) Faculty of Health Sciences and Medicine, Bond University; (2) Nutrition and Food Services, Gold Coast Health; (3) Dietetics Department, Gold Coast University Hospital

**Background:** Patients with head and neck cancer (HNC) often struggle to meet nutrition and hydration requirements due to the cancer itself, and treatment-related toxicities. Previous research demonstrates HNC malnutrition rates as high as 74%, with patients likely to lose at least 10% of their body weight during treatment and gastrostomy patients likely to be dependent on tubes for greater than 6 months. The aim was to assess nutrition outcomes in radiotherapy patients receiving standard nutrition care in the on-treatment and post-treatment settings.

**Methods:** A retrospective cohort study was completed of patients treated with radiotherapy (>20 fractions +/-chemotherapy) to the head or neck area at Gold Coast University Hospital. The primary outcomes were change in body weight, nutrition status (Patient Generated Subjective Global Assessment) and gastrostomy dependence.

**Results:** Data from 209 patients were analysed. On average patients lost 5.6kg (7.1%) at the end of treatment, 7.9kg (8.8%) one-month post-treatment and 8.9kg (10.4%) three months post-treatment. At baseline, 15% of patients were malnourished, compared to 56% at the end of treatment, 54% at one-month post-treatment and 30% three months post-treatment. A total of 60 patients received a gastrostomy tube, with 97% (n=58) proactively placed. The average weight loss for gastrostomy tube patients at the end of treatment was 9% and 13% three months post-treatment. Patients had their gastrostomy tube in-situ for an average of 5 months.

**Discussion:** Patients experienced moderately-high rates of malnutrition and clinically significant weight loss that continues at three months post-treatment. Close dietetic monitoring remains necessary and warranted in this population.
However, these dietary restrictions are not well evidenced and may increase patient burden and length of stay. Therefore, a prospective observational cohort study was undertaken to investigate the effect of inpatient dietary restriction on length of stay and 30-day diverticulitis reoccurrence in adults with acute, uncomplicated diverticulitis.

**Methods:** Participants were recruited from patients admitted to Robina Hospital during the 14-week period from January to April 2017. Outcomes were compared for physician-prescribed liberalised (no dietary restrictions; n=11) versus restricted (bowel rest/nil by mouth or no solid foods allowed; n=16) inpatient diets.

**Results:** Stepwise multiple linear regression found a liberalised diet decreased length of hospital stay by 1.1 days (P=0.035), after accounting for smoking status and gastrointestinal symptoms (GSRS score) at baseline. There were no statistically significant differences in reoccurrence, visits to general practitioner or gastrointestinal symptoms between groups at 30-days post discharge (P>0.05).

**Discussion:** In acute, uncomplicated diverticulitis, a liberalised diet may be favourable to practitioners and patients compared to a restricted diet as it was associated with decreased length of stay. A randomised controlled trial is needed to strengthen confidence in the findings.

**Accuracy of predictive equations for optimising nutrition support in the critically ill: A feasibility study (PREDICT)**

Christine Lyall (1), Alan Spencer (2), David Pearson (3), Andrea Marshall (4)

(1) NMERU, Gold Coast University Hospital; (2) Department of Nutrition and Food Services, Gold Coast Hospital and Health Service; (3) Intensive Care Unit, Gold Coast Health; (4) Acute and Complex Care Nursing, Griffith University, Gold Coast Health

**Background:** Optimising nutrition for critically ill patients is important for improving clinical outcomes. Predictive equations currently guide nutrition prescription but either overestimate or underestimate energy requirements. Measurement of energy expenditure through indirect calorimetry more accurately determines caloric intake. The aim of the PREDICT study was to determine which predictive equations are best suited to our patient population.

**Methods:** Energy expenditure was measured for 60 mechanically ventilated patients on days 2, 3, 5 and 7 of ICU admission, unless contraindicated. Energy expenditure was predicted using four different predictive equations.

**Results:** Energy expenditure was measured for 60 mechanically ventilated, critically ill patients. The mean (SD) age was 53.4 (17.5) years and APACHE II score was 19.3 (5.9). Most participants were male (n=37; 61.7%); 1/3 had a body mass index of over 30 (n=22; 36.6%). There were statistically significant differences between each predictive equation and the measured energy expenditure. The precision, that is the percentage of cases where the predicted valued was within 10% of the measured value, was less than 50% (20.5%-47.1). Energy requirements were more likely to be underestimated using predictive equations and differences were greater on day 5 and 7 of ICU admission. The mean difference was greatest for obese patients.

**Discussion:** The differences between measured and predicted energy expenditure suggest that indirect calorimetry should be used to improve nutrition prescription for critically ill patients. This is particularly important for obese patients and those who require mechanical ventilation for more than 5 days.

**Funding Source:** Gold Coast Health Improver’s Grant, Gold Coast Health Private Practice Trust Fund

**Clinical translation of high load exercise for postmenopausal women with low to very low bone mass: First 12-month findings from The Bone Clinic**

Belinda Beck (1,2,3), Lisa Weis (3)

(1) School of Allied Health Sciences, Griffith University; (2) Menzies Health Institute Queensland; (3) The Bone Clinic, Brisbane

**Background:** Under RCT conditions targeted high intensity resistance and impact training (HiRIT) is safe and improves bone, muscle and function in postmenopausal women with low to very low bone mass. Whether similar benefits could be achieved through ‘real world’ health service delivery, however, was unknown. The establishment of a translational research clinic, in which HiRIT is offered with systematic longitudinal monitoring, provides the opportunity to examine effectiveness, feasibility and acceptability of the program as a legitimate osteoporosis intervention.

**Methods:** Clinic clients undergo comprehensive testing for biometrics, whole body (WB), lumbar spine (LS), total hip (TH) and femoral neck (FN) bone mineral density (BMD), lean and fat mass (XR-800, Norland), calcium, falls, fracture, back strength, kyphosis, and indices of functional performance. Twice-weekly supervised HiRIT with balance training is provided. Compliance is recorded. 12-month training effect was examined using within-subjects repeated measures ANCOVA, adjusting for age and compliance.

**Results:** We report data for 30 women (64.8±6.4yrs, 160.1±6.1cm, 62.3±13.3kg, LS T-score -1.7±1.5, FN T-score -2.2±0.8). Average training compliance was 68.6±21.5%.
Improvement was observed in every measured parameter, and reached significance for WB (P<0.002), LS (P<0.009), and TH BMD (P<0.025), lean mass (P<0.049), tandem fall (P<0.002), back extensor strength (P<0.0001), weight lifted (P<0.0001), kyphosis angle (P<0.008), 12 month falls (P<0.020), and LS T-score (P<0.007). One injury was sustained in a combined total of 6612 weeks training.

**Discussion:** HIRIT is safe and reduces risk for osteoporotic fracture in postmenopausal women with low to very low bone mass in a ‘real world’ clinical setting.

**High intensity training for osteoporosis also improves symptoms of knee and hip osteoarthritis: Early findings from the MOAST trial**

Belinda Beck (1,2,3), Melanie Fischbacher (1,2,3), Lisa Weis (3)

(1) Menzies Health Institute Queensland, Griffith University; (2) School of Allied Health Sciences, Griffith University; (3) The Bone Clinic, Brisbane

**Background:** Osteoarthritis (OA) often coexists with osteoporosis and exercise is commonly recommended as a therapeutic intervention for both conditions. While high load resistance training is required to stimulate bone, it is rarely recommended for OA patients for fear of exacerbating pain. This RCT examined the effect of a high intensity resistance and impact training program (HIRIT) on pain and function in knee or hip OA patients.

**Methods:** Healthy men and women age 50+ with knee or hip OA were randomised to twice weekly, 30 minutes HIRIT or a low intensity home exercise program (CON) for 6 months. Anthropometrics, osteoarthritis symptoms (WOMAC and ICOAP), physical performance (functional reach, sit-to-stand, timed up-and-go), spine and hip bone density and body composition were measured. Compliance and adverse events were recorded. Repeated measures ANOVA were used to examine treatment effects.

**Results:** Thirty men and women (age 64.5 ± 7.5; BMI 27.4 ± 4.2) were recruited. Average compliance was 78.1 ± 9.0% in the HIRIT group and 80.1 ± 25.4% for CON. There were no between-group differences in participant characteristics at baseline. The combined sample experienced an average improvement of 12.4% on the WOMAC (p<0.0005), 3.4 points on the ICOAP (p<0.0005), 1.05 seconds on the timed up-and-go (p<0.0005) and 1.59 seconds on the sit-to-stand (p<0.0005) but there were no between-group differences.

**Discussion:** As both low and high intensity exercise training reduced pain and improved function in people with knee or hip OA, high intensity training may be most advantageous owing to its additional osteogenic benefits.

**Funding Source:** The Bone Clinic, Brisbane and Menzies Health Institute Queensland

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**Habit-based interventions for weight loss maintenance: A randomised controlled trial**

Gina Cleo (1,2), Paul Glasziou (1,2), Elaine Beller (1,2), Elisabeth Isenring (2), Rae Thomas (1,2)

(1) Center for Research in Evidence Based Practice, Bond University; (2) Faculty of Health Sciences and Medicine, Bond University

**Background:** Determine whether habit-based interventions are clinically beneficial in achieving and maintaining long-term weight loss and assess whether making new habits, or breaking old habits is more effective.

**Methods:** A single-blind, 3-arm, randomized clinical trial. Ten Top Tips (TTT), Do Something Different (DSD) and the waitlist (WL) control groups were conducted for 12 weeks. Participants were followed up post intervention (all groups), and at 6 and 12-months post-intervention (Ten Top Tips and Do Something Different only). Participants: Volunteer community members aged 18-75 years who had overweight or obesity (BMI ≥25kg/m2). Main Outcomes and Measures: Primary outcome was weight-loss maintenance at 12-month follow-up. Secondary outcomes included weight loss at all time points, fruit and vegetable consumption, exercise, wellbeing, depression, anxiety, habit strength and openness to change.

**Results:** Of 130 participants assessed for eligibility, 75 adults (mean BMI 34.5 kg/m2 [SD 6.2]), with a mean age of 51 years were recruited. At post-intervention, participants in the TTT (-3.3kg) and DSD (-2.9kg) interventions lost significantly more weight (P= <.001) than those on the waitlist control (-0.4kg). Both intervention groups continued to lose further weight to the 12-month follow-up; TTT lost an additional -2.4kg and DSD lost -1.7kg. At 12-months post-intervention, 28/43 (65%) of participants reduced their total body weight by ≥5%, a clinically important change.

**Discussion:** Habit-based weight-loss interventions - forming new habits (TTT) and breaking old habits (DSD), resulted in clinically important weight-loss maintenance at 12-month follow-up.

**Brief high-intensity exercise enhances skeletal and metabolic health in peripubertal children in the short and long term: CAPO Kids trial**

Rossana C Nogueira (1), Benjamin K Weeks (2), Belinda R Beck (3)

(1) Menzies Health Institute Queensland, Griffith University; (2) School of Allied Health Sciences, Griffith University; (3) The Bone Clinic, Brisbane

**Background:** Exercise during childhood is an important tool to optimise health and to reduce risk of chronic diseases such as obesity and osteoporosis in the long-
Themed session abstracts

Our goal was to determine the benefits and maintenance of brief, targeted, high-intensity in-school exercise to improve bone, fat and physical performance in pre- and peripubertal children.

**Methods:** Two schools were randomly assigned to either thrice-weekly, 10 minutes, in-school high intensity exercise (EX) or control (CON). Measures at baseline (T1), 9 months (T2), and 12 months (T3) included weight, height, age of peak height velocity, calcaneal broadband ultrasound attenuation (BUA) and stiffness index (SI), waist circumference (WC), resting heart rate (HR), blood pressure, vertical jump (VJ), and estimated maximal oxygen consumption (VO2 max). Between-group differences at each time point were determined by repeated measures ANCOVA.

**Results:** At T2, 311 children (10.6±0.6yrs) completed the intervention. EX improved BUA, WC, VJ, VO2 max and HR more than CON (+3-12%, p≤0.01). At T3, after 12 months detraining, both groups (n=240, 77% of follow-up) improved BUA, WC, and VO2 max and HR (+5-13%, p≤0.001), with no between-group differences in degree of change.

**Discussion:** The CAPO Kids program enhanced both musculoskeletal and metabolic health of pre- and peripubertal children. As the rate of change in variables did not differ between groups twelve months after cessation of the intervention, the physical and functional benefits of EX appear to have been sustained. Findings suggest brief targeted exercise in pre- and early puberty may have lasting beneficial effects for skeletal and metabolic health.

Navigating the Maze of Mealtimes (NMOM): Evaluation of a parent training program for childhood feeding difficulties.

Rachael Oorloff (1), Jacqui Willcox (1), Ashleigh Blake (1), Cari Traicos (1), Kelly Weir (1,2)

(1) Gold Coast Health; (2) Menzies Health Institute Queensland, Griffith University

**Background:** Prevalence of early childhood feeding difficulties ranges from 5-65% and feeding and swallowing difficulty (FSD) occurs in 19-99% of children with neurological disorders. GCHHS has limited capacity to provide timely services to children with FSD, with some families waiting 3-6 months. A multidisciplinary parent education program, Navigating the Maze Of Mealtimes (NMOM), was developed to provide families with information about FSD and management of challenging mealtime behaviors whilst awaiting individual services. Few studies have explored the effect of brief parent intervention programs on feeding outcomes, parental stress and quality of life. Hence this study aims to evaluate the impact of a tailored parent education program (NMOM). We hypothesize that attendance at NMOM intervention will reduce mealtime-related parental stress and child challenging mealtime behaviours; and increased parental stress would be correlated with increased child feeding/swallowing severity, high number of challenging mealtime behaviours and growth faltering.

**Methods:** Parents of children referred to Child Development Service & GCUH for feeding and swallowing difficulty are being recruited. Parent stress, child mealtime behaviours and FSD severity and nutritional status are assessed using validated questionnaires and measurement tools at three time points. Time 1: Pre-intervention; Time 2: Immediately post-intervention; and Time 3: 1-month post-intervention. FSD severity is rated from a short video clip of the child during a typical mealtime at Time 1.

**Results:** Data for 15 children has been collected. Preliminary results will be available for presentation.

**Discussion:** Results of this study may influence service provision for national and international health services.

**Funding Source:** GCHHS Allied Health Clinical Backfill Grant
Lightning Talk Abstracts

Tuesday 28th November
Lightning talk session 1

1. Oropharyngeal Dysphagia in children aged 18-60 months with Cerebral Palsy: A longitudinal study

Katherine Benfer (1), Kelly Weir (2), Kristie Bell (3), Robert Ware (4), Peter SW Davies (5), Roslyn Boyd (1)
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**Background:** To determine the progression of oropharyngeal dysphagia (OPD) in preschool children with cerebral palsy (CP), according to gross motor function. It was hypothesised that fewer children would have OPD at 60 months compared to 18-24 months (predominately Gross Motor Function Classification System (GMFCS) I-II).

**Methods:** Longitudinal population-based cohort of 179 children (confirmed CP diagnosis, born in Queensland in 2006-2009, aged 18-60 months at study entry (mean=34.1 months ±11.9; 111 males; GMFCS I=46.6%, II=12.9%, III=15.7%, IV=10.1%, V=14.6%)). Children had a maximum of 3 assessments (median=3, total n=423 assessments). OPD was classified using the Dysphagia Disorders Survey part 2 (DDS) rated from video by a certified paediatric speech pathologist. GMFCS was used to classify children’s gross motor function.

**Results:** OPD prevalence reduced from 79.7% at 18-24 months to 43.5% at 60 months. There were decreasing odds of OPD with increasing age (OR=0.92 (0.90, 0.95); p<0.001), and increasing odds with poorer gross motor function (OR=6.2 (3.6, 10.6); p<0.001). This reduction was significant for children with ambulatory CP (GMFCS I-II, OR=0.93 (0.90, 0.96); p<0.001), but not significant for children from GMFCS III-V (OR (III)=1.0 (0.9, 1.1); p=0.897; OR (IV-V)=1.0 (1.0, 1.1); p=0.366).

**Discussion:** Half of the OPD present in children with CP between 18-24 months resolved by 60 months, with improvement most common in GMFCS I-II. In order to more accurately detect and target intervention at children with persisting OPD at 60 months, we suggest using a more conservative cut-point of 6/22 on the DDS for assessments between 18-48 months.

**Funding Source:** NHMRC

2. Retrospective audit into IVC filter use in trauma patients at Gold Coast University Hospital

Emma Cooper (1), Martin Wullschleger (2,3), Don Campbell (2,3), Kate Dale (2)

**Background:** Current recommendations regarding inferior vena cava filters (IVCF) for venothromboembolism prophylaxis in trauma patients vary according to different professional bodies and healthcare institutions. This audit identified patterns within the cohort of patients who received filters in the last year, to create recommendations regarding IVCF use in local trauma populations.

**Methods:** Patients were identified prospectively at the time of ICVF insertion, for a period of one year – between March 2016 and 2017. Retrospective data collection included: patient demographics, mechanism and anatomical distribution of injury, anticoagulation use, indication for insertion, time to insertion, complications during use, time to removal, complications during removal, and if transfer to another facility occurred.

**Results:** 17 patients had IVC filters inserted with median ISS of 34. 35% (6/17) documented an indication for insertion, including acute DVT (n=2) contraindication to anticoagulation (n=4), however, 11/17 recorded no indication. Complications were experienced in 18% (3/17) patients – DVT (n=2) and DVT plus filter migration (n=1). 70% were removed, with remaining lost to follow up (n=3) or removal contraindicated (n=2). Patients remaining in GCHHS, 80% removed with 100% attempted removal. Median time of use was 92 days.

**Discussion:** This audit demonstrates IVCF use at GCUH is associated with a low level of complications, removals within appropriate timeframes and successful removals above reported international rates; however, a need for clearer documentation of clinical decisions, especially indication for insertion is required considering the conflicting literature with well-described risks and uncertain benefits. Developing local guidelines or pathway would optimise patient care and ensure consistent application of evidence-based practice.

3. Non-alcoholic fatty liver disease risk in an HIV-positive cohort on the Gold Coast

Karen Biggs (1), Caroline Thng (1), Robyn Evans (1), Brian Clarke (1), Summer Osmond (1), Ruth Ferguson (1), April Croydon (1), Maree O’Sullivan (1)
(1) Gold Coast Sexual Health Service, Gold Coast Health Service; (2) School of Medicine, Griffith University

**Background:** Non-alcoholic fatty liver disease (NAFLD) is increasingly common in the general population, and people living with HIV (PLHIV) are at increased risk. Although diagnosis is only accurately established by liver biopsy, the hepatic steatosis index (HSI) may be used as a screening tool. This quality assurance audit
Lightning Talk Abstracts

4. Reduced Heart Rate Variability across first 24 hours of Intensive Care Unit in non-survivable Traumatic Brain Injuries

Tegan Roberts (1,2), Brent Richards (1,2), Luke Haseler (3)
(1) Griffith University; (2) Gold Coast University Hospital; (3) Curtin University, Western Australia

Background: Despite major improvements in the resuscitation and management of a Traumatic Brain Injury, predicting patient trajectories remains difficult to establish, particularly within the first 24hrs of ICU admission. The natural variation of the hearts beat-to-beat intervals (heart rate variability-HRV) has demonstrated promise in the literature as a marker of physiological and pathological conditions, including autonomic nervous system function. Enhanced TBI outcome prediction may enable better resource allocation and potentially assist with end-of-life decisions. This study investigated differences in HRV between TBI survivors and non-survivors across the first 24 hrs of ICU admission.

Methods: 17 patients were enrolled in the study at GCUH ICU with a primary TBI diagnosis. Patients ECG data was acquired separately from the patient monitor continuously at 300 Hz utilising GE iCollect software. ECG data was manually screened for ectopic beats before RR interval was assessed in both time and frequency domains utilising Kubios 2.2. HRV measures were modelled on outcome variables between survivors and non-survivors of a TBI.

Results: Survivable TBI was associated with increased global HRV complexity (p<0.01) and low-frequency powers (LF) dominance (p<0.05); non-survivable brain injuries were associated with a dramatic reduction in overall variability and a shift from LF to High-Frequency powers (HF) across the first 24hrs of ICU. Patients who progressed to brain death showed significantly reduced LF (p<0.027).

Discussion: Survivable outcome correlated with increased overall HRV. HRV is a promising eBiomarker of TBI survivability and as a marker of patient clinical trajectory that utilises pre-existing, non-invasive, standards of patient care.

5. Changes in skeletal muscle form and function with short-term unloading

Jamie-Lee M. Thompson (1), Thomas M. Doering (1), Katsuhiro Shike (1), Kevin J. Ashton (1), Vernon G. Coffey (1)
(1) Bond University, Gold Coast, Australia

Background: Disuse atrophy is a secondary complication that often exacerbates the aetiology of injury and chronic disease. Identifying changes in function and mechanisms that control muscle mass is necessary to characterize atrophy during periods of disuse and maintain a healthy functional capacity. This study aimed to profile loss of function and determine gene expression responses in human skeletal muscle during short-term immobilisation.

Methods: This study recruited 21 male participants aged 20-45 years. Participants completed four weeks of standardized physical activity prior to a 14-day limb (left leg) immobilisation period. Strength testing, DEXA and MRI was performed pre- and post-immobilisation. Skeletal muscle biopsy samples were also collected at three time points: i) pre-immobilisation, ii) after three days and iii) post-immobilisation.

Results: Strength testing showed a 16.4% strength loss (21.5 kg) for the leg press exercise in the immobilised leg compared to no change in the control leg before and after the immobilisation period. There was a 3.2% loss of lean mass in the immobilised leg and an 8.5% decrease in anatomical cross sectional area of the quadriceps muscle group following immobilization.

Discussion: This study provides new data on the changes in skeletal muscle performance and the loss of mass that could be expected with two weeks’ disuse. Future studies will focus on the DNA methylation and gene expression changes responsible for muscle wasting.

Funding Source: CRN-AESS
Lightning Talk Abstracts

6. Mothers and clinicians’ expectations and experiences of a new psychiatric mother-baby unit at Gold Coast University Hospital.

Grace Branjerdporn (1), Jennifer Fenwick (2,3), Debra Creedy (4)
(1) Lavender Mother-Baby Unit, Gold Coast University Hospital; (2) School of Nursing and Midwifery, Griffith University; (3) Gold Coast University Hospital; (4) Menzies Health Institute Queensland

Background: The Lavender Mother-Baby Unit at GCHHS was recently established to support the mental health and mother-baby relationship of women with severe mental illnesses. This is the first public psychiatric inpatient unit that caters for both mothers and babies. The aim of this project is to explore the expectations and experiences of women admitted to the service. In addition, clinician’s perceptions of their role, and the care and services offered will be explored, including barriers and facilitators.

Methods: This project uses a qualitative research design. Interviews will be conducted with two groups of participants: mothers admitted to the unit, and clinicians. Thematic analyses will be applied to both data sets.

Results: The project is expected to commence in November 2017. By investigating stakeholders’ experiences, it is anticipated that recommendations for future service development may be identified to ensure that the mother-baby unit is meeting both mothers’ and infants’ needs.

Discussion: As an inpatient Mother-Baby Unit is considered a complex intervention, evaluating the service using qualitative methods as the first phase is important to ensure that all perspectives are captured. The evidence from this study will also be used to inform an ongoing evaluation strategy including the selection and/or development of quantitative measurements to evaluate both the short and long term outcomes of women and infants using the service as well as perceptions of quality.


Katrina Smith (1), Catherine McDermott (1), Russ Chess Williams (1)
(1) Centre for Urology Research, Faculty of Health Sciences and Medicine, Bond University

Background: Intravesical capsaicin has been used to treat refractory painful bladder syndrome. Although it is not tolerated well, the discomfort is transient and there have been reported improvements in pain, urgency and frequency that persists for up to 6 months. Our objective was to investigate the effects of luminal capsaicin treatment on bladder function.

Methods: Capsaicin (1mM) was applied to the luminal surface of porcine bladders for 30 minutes. Matched vehicle control tissues (VCT: 30% ethanol/30 min) and untreated control tissues (UCT; saline/30 min) were also assessed. Treatment medium was assayed for ATP and Ach release, contractile responses of isolated tissue strips were recorded and tissues were compared histologically.

Results: Histological examination revealed significant erosion of the urothelium in VCT compared to UCT, which was not exacerbated by capsaicin treatment. VCT had significantly enhanced urothelial ATP and depressed Ach release compared to UCT. Ach release was significantly increased following capsaicin treatment while ATP release remained unchanged relative to VCT. Maximal contractile responses to carbachol were significantly greater in urothelial and detrusor VCT and these responses were further enhanced by capsaicin treatment. Neurogenic responses were significantly larger at maximum stimulation in VCT with no further change in capsaicin treated tissues.

Discussion: Based on our study, the immediate outcome of capsaicin treatment revealed significant changes in contractile and mediator responses compared to VCT. These responses were in addition to the significant urothelial damage, enhanced contractile activity and altered release of mediators associated with the vehicle.

Funding Source: This work was supported by the Faculty of Health Sciences and Medicine, Bond University

8. The OPTIMA-Ex trial RCT protocol: A comparison of the bone response to impact loading versus resistance training in young women.

Conor Lambert (1,2), Belinda R Beck (1,2,3), Amy T Harding (1,2), Steven L Watson (1,2), Benjamin K Weeks (1,2)
(1) Menzies Health Institute Queensland, Griffith University; (2) School of Allied Health Sciences, Griffith University; (3) The Bone Clinic, Brisbane

Background: Inadequate accumulation of peak bone mass increases the risk of osteoporosis later in life. Therefore, participation in osteogenic exercise prior to skeletal maturity is likely to be an effective strategy for osteoporosis prevention. The aim of the OPTIMA-Ex (Osteoporosis Prevention Through Impact and Muscle-loading Approaches to Exercise) trial is to compare the bone response to two known osteogenic stimuli – impact exercise and resistance training. The determination of the most effective source of loading would provide grounds for optimal prescription for osteogenic exercise strategies for young adult women.

Methods: The OPTIMA-Ex trial (ACTRN12616001444471) is a three-arm, single-blinded, single centre randomised controlled exercise intervention trial. Sedentary healthy women aged 18-30...
Lightning Talk Abstracts

years with lower than average bone mass (T-scores < 0), are currently being recruited. Eligible participants are randomized to 10-month, twice-weekly, either a supervised high intensity impact training, a high intensity resistance training or a home-based very low intensity exercise control group. Outcome measures include whole body and regional parameters of bone strength; body composition; physical performance; safety and acceptability of exercise training. Baseline participant characteristics have been compared using one-way ANOVA. Final outcomes will be examined by an intention-to-treat approach using repeated-measures ANCOVA, and per-protocol analyses.

Results: To date, a total of 32 participants have been randomised (Impact=11, Resistance=9, Home=12). Baseline characteristics for the whole group are as follows: age=22.3±3.7 years; height=1.64±0.63 m; weight=57.8±8.7 kg; BMI=21.6±2.8; age of menarche=13.2±1.3 years, with no between-group differences.

Discussion: Recruitment is ongoing. Findings will inform the development of optimal exercise prescription for the prevention of postmenopausal osteoporosis from young adulthood.

9. LIFTMOR-M protocol: Does resistance and jump training or machine-based isometric training reduce fracture risk in men with osteopenia and osteoporosis?

Amy T Harding (1,2), Benjamin K Weeks (1,2), Lisa J Weis (3), Conor Lambert (1,2), Steven L Watson (1,2), Belinda R Beck (1,2,3)

(1) Menzies Health Institute Queensland, Griffith University; (2) School of Allied Health Sciences, Griffith University; (3) The Bone Clinic, Brisbane

Background: Despite more serious outcomes from osteoporotic fractures for men than women, therapeutic interventions are more typically examined for postmenopausal women owing to greater prevalence. The LIFTMOR-M (Lifting Intervention For Training Muscle and Osteoporosis Rehabilitation for Men) trial will compare the effects of two bone-targeted exercise programs on parameters of bone strength and risk factors for falls and fracture in older men with osteopenia and osteoporosis.

Methods: Men over fifty years of age with low bone mass, screened for conditions and medications known to affect bone are currently being recruited from the Gold Coast community. Participants are randomly allocated to 8 months of high-load progressive resistance training plus impact loading (HiRIT), or a bioDensity™ machine-based isometric exercise program. Measures include whole body and regional parameters of bone strength, anthropometry, body composition, kyphosis, physical function, safety (adverse events and injuries), compliance and exercise program acceptability. An intention-to-treat approach using repeated-measures ANCOVA, and per-protocol analyses (training compliance >70%) will be conducted.

Results: Ethical approval has been granted (AHS/07/14/HREC). Thirty-five men (65.9±7.7 yrs; 83.0±12.7 kgs; 176.5±6.7 cm) with low bone mass (femoral neck T-score -1.8±0.6) have been recruited and randomly assigned to either HiRIT or bioDensity™ training. Twelve have completed 8 months training in each group to date. There have been no adverse events.

Discussion: We will report efficacy, safety and acceptability of two novel bone-targeted exercise programs to facilitate the formulation of future exercise guidelines for older men with established low bone mass at risk of low-trauma fracture, a previously under-studied group.

Funding Source: 2016 Sports Medicine Australian Research Foundation Grant & Osteoporosis Australia equipment grant- Performance Health Systems (Northbrook, IL, USA) supplied and installed the bioDensity™ isometric exercise machine.

10. Junior Doctor feedback in the night space

Brooke Bullock (1)
(1) Gold Coast Health

Background: All junior doctors (JDs) are required to have their performance assessed each term. After-hours shifts tend not to have traditional supervision processes and therefore require alternative strategies for assessing performance. The Mini-Peer Assessment Tool (mini-PAT) is a multisource feedback assessment tool comprising a JD self-assessment and collated ratings from a range of co-workers. There is significant evidence to suggest that peer assessment is suitable for postgraduate development of JDs. The aim of this research was to investigate the outcomes of implementing the mini-PAT system to contribute to the performance assessment of JDs during their after-hours term.

Methods: A questionnaire was developed by key stakeholders in order to address the national standards and assessment competencies set by the Australian Medical Council. The survey is comprised of 17 questions including open response and Likert scale questions investigating JD performance. The process is facilitated by the MEU involving collation of responses from 6-8 nominated assessors per JD and feedback provided. To gain feedback on this process, all assessors are asked three open ended questions relating to the mini-PAT as part of each assessment.

Results: Seventy-four JDs have undergone Mini-PAT assessments since October 2016. Assessments take an average of 6.5 minutes per assessor with positive feedback on the process overall. Approximately 15% of
11. Exercise-induced oxygen desaturation and perceived breathlessness in 6-minute walk test and grocery shelving task in patients with Chronic Obstructive Pulmonary Disease
Emma Walker (1), Corinne French (1), Anne Sinclair (1), Menaka Sabaratnam (1), Amanda Betts (1), Norman R. Morris (2)
(1) Gold Coast Hospital and Health Service; (2) School of Allied Health Sciences and Menzies Health Institute, Griffith University

Background: Patients with chronic obstructive pulmonary disease (COPD) often experience symptoms of exercise-induced oxygen desaturation and breathlessness as the disease severity increases. Following pulmonary rehabilitation (PR) it is hypothesised that patients with COPD are less affected by exercise-induced oxygen desaturation and breathlessness as indicated in physical outcomes of 6-minute walk test and grocery shelving task

Methods: Retrospective cohort study design of PR participants from August 2014 to August 2016. Participants completed eight weeks of upper and lower limb exercises. Outcome measures included the change (Δ) in exercise-induced oxygen desaturation (SpO2) and breathlessness (from the modified BORG scale) during the 6-minute walk test (6MWT) and in grocery shelving task (GST). The change in desaturation and breathlessness were compared pre and post PR.

Results: 88 participants were included. Following PR the 6MWT distance increased by 20.7m (p<.001) and GST recovery time reduced by 15.9s (p<.001). There was no significant change in exercise-induced oxygen desaturation for the 6MWT (Δ pre=4.6%; Δ post=4.7%; p = 0.20), however there was a significant improvement in the GST (Δ pre=2.7%; Δ post=1.2%; p = 0.00). The change in perceived breathlessness was improved for both the 6MWT (Δ pre=2.9; Δ post=2.6; p =0.02) and the GST (Δ pre=1.6; Δ post=1.4; p =0.03).

Discussion: In our sample pulmonary rehabilitation resulted in a reduction in exercise-induced oxygen desaturation during upper limb activity.

Funding Source: In Kindness Professor Norman R. Morris, GCHHS Allied Health Research Clinical Backfill

12. Vibration intervention for bone, muscle and osteoporosis rehabilitation (VIBMOR): A RCT protocol

Belinda Beck (1,2,3), Shirley Wee (1,2), Rossana Nogueira (1,2,3), Sanjopy Paul (4), Mark Forwood (1,5), Clinton Rubin (6)
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Background: Non-pharmacological therapeutic options for osteoporotic fractures of the hip are limited, and of limited efficacy. While certain drugs can enhance bone mineral density (BMD) and reduce the incidence of fracture, they do not reduce falls and many patients are reluctant to take them due to side effects. Whole body vibration (WBV) is a novel therapy with promising outcomes for bone from pilot trials. High-intensity resistance and impact training (HiRIT) is known to benefit bone but the effect in combination with WBV is unknown. The primary objective of the trial is to determine if WBV, can maintain or increase hip BMD in postmenopausal women with low bone mass with or without HiRIT. We hypothesize that the combination of vibration and exercise will enhance the effects of both.

Methods: 428 postmenopausal women with low BMD will be recruited into a 2-year trial, involving a 1-year intervention followed by 1-year withdrawal of treatment to monitor detraining effects. Participants will be block-randomised according to presence or absence of OP medications to 1) Control, 2) WBV (10 min session 5 days/week, 3) HiRIT (2x30 min HiRIT exercise/week, and 4) HiRIT + WBV (2x30-minute HiRIT session/week, and 10 min WBV 5 days/week. Testing will occur at 0, 12 and 24 months and include BMD, bone strength, balance and strength-related function, posture and quality of life. Compliance, adverse events, falls and fractures will be monitored. Logistic regression models will be used to compare differences in proportions of groups with positive musculoskeletal, functional and falls outcomes. An economic evaluation will be performed.

Results: The study is not yet underway

Discussion: Not applicable

Funding Source: NHMRC Project Grant Scheme

13. Oral feeding for infants/children receiving high flow nasal cannula or nasal continuous positive airway pressure respiratory supports – survey of practice

Angie Canning (1), Rachael Oorloff (1), Manbir Chauhan (2), Kelly Weir (3)
(1) Speech Pathology Department, Gold Coast Health; (2) Newborn Care Unit, Gold Coast University Hospital; (3) School of Allied Health Sciences/Menzies Health Institute Queensland, Griffith University & Gold Coast Health

Abstract

The study is not yet underway

Discussion: Not applicable

Funding Source: NHMRC Project Grant Scheme

45
Background: Technological advances have led to increased use of continuous positive airway pressure (nCPAP) and/or high flow nasal cannula (HFNC) for infants/children requiring respiratory support. However there is divided opinion as to whether orally feeding these children is safe, and a lack of evidence-based clinical guidelines to guide practice.

Methods: An online questionnaire was created using SurveyMonkey® and sent via email to professionals providing services to Level 4 neonatal units and paediatric intensive care/high dependency units throughout Australia and New Zealand (ANZ). Participants completed 38 closed choice, short answer and open-ended questions regarding current feeding practices for infants/children requiring nCPAP or HFNC, and if agreeable, provided a copy of their units’ clinical guidelines.

Results: 73/120 responses had complete information for analysis, representing 47 units and 38 hospitals. Major respondents included Speech Pathologists (32.9%), Neonatologists/Paediatricians (32.9%), and NUMs (9.6%). Oral feeding reportedly ranged from ‘rarely’/’often’ in 61% of respondents for children on nCPAP, and 92% on HFNC. Common reasons for not orally feeding infants included “medical team does not allow” (32.5%, 23.1%), ‘aspiration risk is unclear’ (30.2%, 53.8%) for nCPAP & HFNC respectively. A range of strategies were used to determine physiological stability/safety during oral feeding, but no confirmation of aspiration risk with instrumental evaluation. Only 3 units had any feeding guideline.

Discussion: Considerable variation in practices and professional opinions were reported within and across different units throughout ANZ, with a lack of written policies or guidelines to guide practice. Further clinical research is required to determine if oral feeding during non-invasive ventilation is safe for infants/children.

14. Rasch analysis of the chronic pain acceptance questionnaire (CPAQ): Are scores on the full-length and short-form CPAQ interchangeable?

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(1) Interdisciplinary Persistent Pain Centre, Gold Coast Health; (2) School of Psychology, Charles Sturt University

Background: Around one million Queenslanders are affected by chronic pain. Chronic pain acceptance is defined as experiencing pain without attempting to reduce or avoid it. The study investigated whether a commonly used measure of pain acceptance, the Chronic Pain Acceptance Questionnaire (CPAQ), is psychometrically sound, and if so, create a conversion metric between short and long forms.

Methods: Retrospective cross-sectional questionnaire study. Rasch analysis was employed to examine the psychometric properties of the CPAQ in a sample of 416 adults attending an outpatient tertiary-referral chronic pain outpatient service on the Gold Coast, Australia.

Results: Following rescoring from 7-points to 3-points, the CPAQ rating scale functioned satisfactorily and the person response validity was acceptable. Following deletion of one misfitting item, the dimensionality results supported using the CPAQ as discrete measures of pain willingness (9 items) and activity engagement (10 items). The pain willingness and activity engagement measures both had good person separation reliability. Some item bias was noted, however, it was not considered to have practical implications.

Discussion: A three-point scale CPAQ can be used in clinical practice to measure pain willingness and activity engagement for chronic pain patients. The use of a single CPAQ aggregate score as a measure of pain acceptance was not supported. The results demonstrate the CPAQ as a two factor measure does possess sufficient metric properties to fit the Rasch model and be converted to interval scale. A common metric has been developed to support equiscale comparison between short and long forms of the CPAQ.

21. Geocoding the mortality of Traumatic Brain Injury on the Gold Coast

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(1) School of Medicine, Griffith University; (2) Trauma Services, Gold Coast University Hospital

Background: The World Health Organisation predicts that traumatic brain injury will be the third most important cause of global disease burden by 2020, included in nearly half of trauma deaths worldwide. Traumatic brain injury is a major public health concern in Australia and it was found that 4.6% of hospital admissions with traumatic brain injury as a primary diagnosis resulted in death. Our initial pilot study – Geocoding the Trauma Registry – identified that geocoding is useful in identifying clusters of traumatic injury on the Gold Coast. Existing literature has identified the impact of location on the frequency and severity of traumatic brain injuries, but this data is not specific or related to our community.

Methods: This is a retrospective study utilizing data from our initial pilot study, with a specific focus on traumatic brain injury. Our inclusion criteria require that trauma patients be admitted to the Gold Coast University Hospital with a traumatic brain injury (defined by the Abbreviated Injury Scale) and this must be the primary cause of death. The location of injury will be geospatially mapped and cluster analysis will be performed.
Results: Preliminary results from our study show that traumatic brain injury is able to be spatially reviewed, identifying clusters of mortality resulting from different types of traumatic brain injury.

Discussion: Traumatic brain injury is preventable and an important public health concern, associated with high mortality rates. The results of our study demonstrate the opportunities for potential preventative interventions for traumatic brain injury.

22. Stop the ‘bloody’ waste: Evidence that staff engagement in a non-wastage package makes a difference

Katie East (1), Fiona Clark (2), Penny Toland (3), Quirine O’Loughlin (3), Amy N.B. Johnston (1,4)
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Background: Blood is a vital clinical product that is provided by voluntary, non-remunerated, eligible donors across Australia. It is the responsibility of end-users within health services to minimise wastage of this resource by meeting the National and Queensland Red Blood Cell (RBC) wastage targets. In the 6 month period, July-Dec 2016, GCUH emergency department (ED) wasted 27 units of RBC costing $10,854.

Methods: This quality improvement study used a retrospective, comparative, mixed methods evaluation of a bundled intervention, developed in collaboration with ED staff, to enhance awareness of and compliance with cold chain requirements for blood products. Regular staff education, alarms on the blood delivery system (pneumatic tube) and improved documentation were developed and implemented by our multi-departmental team. Outcomes were assessed by monitoring monthly blood wastage audits.

Results: In the six-month period Jan-June 2017 the ED wastage was 8 units RBCs, costing $3216, 70%. Other blood product wastage (cryoprecipitate, platelets etc) also decreased. Staff indicated greater confidence and understanding about the processes required to maintain the cold chain. Interaction between departments to reduce communication barriers, including a staff BBQ were positive and well attended.

Discussion: Building relationships with key staff within the clinical areas, engaging staff in strategy development and then providing staff with ongoing support to adapt and make their strategies work enhances target compliance. Engaging with clinicians, including developing their awareness of and compliance with (blood) wastage targets across the health service, can help ensure joint responsibility for intervention outcomes.

28. Detection of Anthocyanins effects to alleviating platelet activity

Almottesembellah Gaiz (1), Avinash Kundur (1), Sapha Mosawy (1), Natalie Colson (1), Indu Singh (1)
(1) School of Medical Sciences, Griffith University

Background: Platelet hyperactivity has a significant role in initiating vascular thrombosis and subsequent cardiovascular disease (CVD). Many studies demonstrated resistance to currently used antiplatelet therapies such as aspirin. Antioxidant activity of polyphenolic compounds has been shown to reduce platelet activity. The aim is the assessment of the in vivo effect of pure AC compounds on the platelet and aggregation and activation.

Methods: Healthy human subject (n=26) were recruited in this study. Each participant has consumed 80 mg of AC/day in the form of Medox® capsules for 28 days. Fasting blood sample was collected at baseline and after the treatment period. Flow cytometry was used to assess platelet activation by measuring platelet surface marker expression of CD41a and P-selectin in response to adenosine diphosphate (ADP).

Results: Flow cytometric analysis showed a significant suppressive effect of AC at a dose of 320 mg/day on the expression of P-selectin as measured by the platelet surface expression of CD62p.

Discussion: The results show that AC may reduce platelet activation as demonstrated by inhibition of P-selectin expression. These results provide greater insight into the effect of AC and the possible mechanism by which AC can reduce platelet activation. Hence, AC may act as a compliment to other anti-platelet agents to reduce the occurrence of thrombotic events.

29. Big Data and ICU scoring systems

James Todd (1), Adrian Gepp (1), Bruce James Vanstone (1), Brent Richards (2)
(1) Bond Business School, Bond University; (2) Gold Coast University Hospital and intelliHQ

Background: Severity scoring systems are used in intensive care units for stratifying patients in clinical research and benchmarking ICU performance. A variant of the Acute Physiology and Chronic Health Evaluation (APACHE) system is used in Australia for benchmarking purposes – the APACHE III-j. This and other major scoring systems have been developed under an old paradigm of minimum data collection, while the current paradigm is to use all useful data. The APACHE III-j system uses the worst observations in the first 24-hours
of a patient’s ICU stay, ignoring the rest of the distributional information. We hypothesise that scoring system performance can be improved by adding variables that capture this ignored distributional information.

**Methods:** To test this hypothesis, the APACHE III-J system will be replicated and compared to a modified version that adds metrics describing the distribution of an underlying physiology variable utilising high frequency data. Data for the study is provided by the Gold Coast University Hospital.

**Results:** Results were assessed by comparing the two models on the basis on discrimination using ROC curves and calibration through the Hosmer-Lemeshow statistics.

**Discussion:** Findings suggest future use of high frequency data to capture additional distributional information to improve severity scoring systems for use in ICUs.

### 30. Fail to attend sleep medicine out-patient clinic: A retrospective audit

_Puneet Prasad (1), Krishna B Sriram (1,2)
(1) Department of Respiratory Medicine, Gold Coast University Hospital; (2) School of Medicine, Griffith University_

**Background:** Fail to attend (FTA) the out-patient department has financial costs for the GCHHS, clinical implications to the patient and those awaiting an appointment. The aim of this audit was to evaluate a cohort of patients who FTA their sleep medical out-patient clinics to identify potential factors that if changes could reduce FTA rates.

**Methods:** One hundred patients who FTA their appointments during 2016-2017 were considered for the study. Medical records were reviewed in order to gather patient demographic and clinical information pertaining to the reason for clinic non-attendance.

**Results:** The mean (±SD) age of the patients was 53±16 years and 63% were male. The median (IQR) of the distance of residence from the hospital was 10 (3-36) kilometres. Of the FTA appointments, 30% were new clinic and 70% were review. Reasons for appointments were: sleep apnoea management (69%); query: sleep apnoea (24%); narcolepsy (3%); parasomnias (2%), insomnia (1%) and respiratory failure (1%). There was no documentation of the reason for the fail-to-attend in 93% of patients; 2% of patients had relocated elsewhere; 2% stated that they were unwell and 2% stated that they were not interested in attending sleep medical clinics. 27% of patients had previously failed to attend a previous sleep medical out-patient clinic.

**Discussion:** Our retrospective audit has identified previously unknown details about patients who FTA sleep medical out-patient clinics. Future research should involve a prospective study that specifically identifies novel approaches to clinics that reduce the cost to both patients and our hospital service.

### 31. Multiplate® guided antiplatelet therapy in patients undergoing Interventional Neuroradiological procedures for the management of cerebral aneurysm: A three phase study

_Sarah Czuchwicki (1,2), Aden McLaughlin (1,2), Kerin Walters (1,2), Moira Arnell (1,2), Andrew Bulmer (2,4), Hal Rice (3), Laetita De Villiers (3), James Winearls (1,2)
(1) Department of Intensive Care Unit, Gold Coast University Hospital; (2) GCUH Critical Care Research Group, Gold Coast University Hospital; (3) Department of Interventional Radiology, Gold Coast University Hospital; (4) School of Medicine, Griffith University_

**Background:** Patients undergoing Interventional Neuroradiological (INR) management of cerebral aneurysms are at risk of thromboembolic and/or haemorrhagic complications which may be attributable to hypo- or hyper-response to routine antiplatelet therapy. This three phase study utilises the Multiplate® analyser to assess platelet function in patients undergoing INR.

**Phase I results are described.**

**Methods:** Phase I was a targeted retrospective audit of all INR patients admitted to the Gold Coast University Hospital (GCUH) between January 2012 and December 2014. Patient demographic, procedural and disease data was collected. Primary outcomes of interest were death, thromboembolic and haemorrhagic events during hospital admission.

**Results:** 152 patients underwent 160 INR procedures for cerebral aneurysm/s. 77.6% were female with a median age of 55 years. 92 (60.5%) were elective and 60 (39.5%) were emergency SAH cases. Thromboembolic complications occurred in 5.4% of elective patients and 20% (12) of emergency patients. 3 (3.3%) elective and 8 (13.3%) emergent patients suffered haemorrhagic complications. Two deaths (2.2%) occurred in the elective cohort while seven (11.7%) deaths occurred in the emergency cohort. Of the total 9 deaths, 5 (55.6%) were related to thromboembolism.

**Discussion:** Findings demonstrate thromboembolism was a main contributor to morbidity and mortality. These results lead to the implementation of phase II at GCUH - a prospective analysis pre- and post-INR procedure to assess platelet function. Results of 100 patients recruited are under analysis with plans to move onto the third Interventional phase – targeted antiplatelet therapy based on Multiplate® analysis. **Funding Source:** Gold Coast Hospital Foundation

### 33. Comparing organisational readiness to implement an evidence-based intervention in different contexts: A qualitative exploratory study
Lightning Talk Abstracts

Prof Sharon Mickan (1), Natasha Crow (1)  
(1) Allied Health, Gold Coast Health

**Background:** Ensuring health professionals implement Evidence-Based Practice (EBP) routinely is a health care priority. Clinicians cannot, however, directly translate an effective intervention from one context to another. There is a need to evaluate the local context before any change can be planned. Three theories of organisational change have been used to review the implementation of an evidence based program across three different countries. The PEAK (Physical therapist-driven Education for Actionable Knowledge translation) program has demonstrated effectiveness in improving health care professional’s self efficacy and self-reported EBP behaviours (Tilson, et al, 2014). This research study has compared the impact of organisational readiness factors on the successful adoption, adaption, and implementation of the PEAK program.

**Methods:** This research used qualitative semi structured email interviews to explore and understand the impact of organizational factors on participation in a EBP program.

**Results:** Three facilitators provided data on five EBP programs. The PEAK program was adapted to the local context of different organisations, through a range of locally tailored adaptations. Some facilitators were able to overcome the organisational barriers and resource issues, through detailed planning, a specific outcome goal and clear communication.

**Discussion:** Organisational factors are crucial to the effective implementation of evidence-based practice programs for health care staff. Through consideration of organisational readiness factors, facilitators can better analyse and prepare for implementing effective interventions.

**Funding Source:** GCHHS

34. Acute otitis media in children presenting to the emergency department. Description of diagnostic and management practice.

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(1) School of Medicine, Bond University; (2) Emergency Staff Specialist, Robina Hospital; (3) Research Department, Bond University

**Background:** To describe the diagnostic and management practice of children with acute otitis media (AOM) presenting to the emergency departments (ED) of Gold Coast Hospital and Health Service and compare practice with existing guidelines.

**Methods:** We performed a retrospective cohort audit of approximately 250 patients under 15 years of age, who presented to Gold Coast University Hospital or Robina Hospital ED between January 2016 and June 2017. Patient inclusion was based on ED information system (EDIS) diagnosis of AOM. Demographic, clinical assessment and management data were obtained through electronic medical records (EMR). At least two independent data extractors collected data on each patient. Discrepancies were resolved via consensus. Findings were compared against relevant guidelines used in the ED. Patient with alternative diagnosis (i.e. otitis media externa) were excluded form the study. Data will be presented as descriptive statistics. The study received ethics approval from GCHHS.

**Results:** Final results will be presented during research week. Data collection is underway and almost complete. We will describe epidemiology, determine the appropriateness of diagnosis and management in reference to relevant guidelines currently used in GCUH and Robina EDs. Preliminary data suggests higher than expected rates of antibiotics being prescribed to children with AOM.

**Discussion:** The results will provide information regarding the variation in diagnosis and treatment, compliance with guidelines, and inform practice for future AOM presentations in ED within this age group.

35. Evaluation of enoxaparin dose-response in obese patients: A retrospective case series

Celeste Bloomfield (1), Micheal Barras (2), Tiffany Lui (3), Carly Fowler (4), Leigh Robertson (5), Amy Legg (6), June Chan (7), Matthew Gibbs (8), Rebecca Lee (9), Rodney Neale (10), Karl Winckel (2)  
(1) Pharmacy Department, Gold Coast Hospital and Health Service; (2) Pharmacy Department, Princess Alexandra Hospital; (3) School of Pharmacy, University of Queensland; (4) Pharmacy Department, Toowoomba Hospital; (5) Pharmacy Department, Townsville Hospital; (6) Pharmacy Department, Royal Brisbane and Womens Hospital; (7) Pharmacy Department, The Prince Charles Hospital; (8) Pharmacy Department, Logan Hospital; (9) Pharmacy Department, Ipswich Hospital; (10) VTE Clinical Nurse Consultant, Princess Alexandra Hospital

**Background:** Dosing of enoxaparin in obesity is poorly understood. Dosing using total body weight (TBW) may lead to supra-therapeutic anticoagulation, whilst ‘dose capping’ for patients over 100kg may be sub-therapeutic. Aim: to examine trends in enoxaparin dosing and corresponding anti-factor Xa (aXa) levels in obese patients. To examine if data supports the uncapped treatment dosing strategy proposed in the literature of 0.75-0.85mg/kg TBW twice daily.

**Methods:** Data was collected retrospectively from the medical records of inpatients and outpatients at eight tertiary metropolitan hospitals in Queensland between 2000 and 2017. Enoxaparin dose and corresponding
peak aXa level were recorded for patients with a TBW >100kg, who were prescribed twice daily enoxaparin. Patients with a renal function <60mL/min/1.73m² were excluded. Data was categorised into dosage ranges and the percentage of therapeutic (0.5-1.1U/mL), subtherapeutic and suprathерapeutic levels calculated.

**Results:** 124 patients were included with a mean TBW and enoxaparin dose of 128kg and 0.83mg/kg respectively. 60%(75/124) of aXa levels were in the therapeutic range, 26%(32/124) were supra-therapeutic and 14%(17/124) were sub-therapeutic. The mean dose for aXa levels in the therapeutic range was 0.82mg/kg. The percentage of therapeutic, supra-therapeutic, and sub-therapeutic aXa levels per dose range were: 61%(33/54), 31%(17/54), and 7%(4/54) respectively (0.85-1mg/kg), 64%(18/28), 25%(7/28), and 11%(3/28) respectively (0.75-0.85mg/kg), 64%(16/25), 16%(4/25), and 20%(5/25) respectively (0.6-0.75mg/kg) and 54%(7/13), 0%, and 46%(6/13) (<0.6mg/kg).

**Discussion:** Large inter-individual variability in dose-response exists in this population. The dosing strategy of 0.75-0.85mg/kg results in less supra-therapeutic but more sub-therapeutic levels when compared to 0.85-1mg/kg. A prospective evaluation of dosage strategies less than 1mg/kg is required.

36. Horsing around: Hendra on the Gold Coast

Tracy Bladen (1), Satyamurthy Anuradha (1,2)
(1) Gold Coast Health; (2) University of Queensland

**Background:** The emergence of Hendra virus in Queensland since 1994 is a significant public health issue. Direct contact with bodily fluids of infected horses leads to this potentially fatal disease in humans. We describe how public health responded to a confirmed case of Hendra virus in a horse on the Gold Coast and the lessons learnt.

**Methods:** In May 2017 the Gold Coast public health unit was notified of a positive Hendra virus test. This unvaccinated horse had exhibited neurological symptoms for 12 hours prior to being euthanised. The pet animal had been cared for by two seven-year old children and parents. Rapid confirmation of all human contacts and degree of exposure to the sick horse during the infectious period was undertaken. Seven contacts were identified and classified as having negligible, low or medium risk exposure. All human interactions with the horse for five days prior to onset of illness deemed three out of four family members, two veterinarians, one Farrier as low risk.

**Results:** An expert advisory panel was convened and one child was assessed to have had a medium risk exposure and received prophylactic treatment with monoclonal antibodies. Enhanced surveillance of all contacts occurred for 21 days following exposure which included constant reassurance and psychological support.

**Discussion:** Our case report demonstrates the significant physical and psychological impact that Hendra virus infection in horses has on human contacts. Public Health education for animal handlers regarding infection control measures is paramount. The importance of vaccinating every horse against Hendra virus cannot be over-emphasized.

37. Obesity on trial for community jury

Deena Seesaengnom (1), Gina Thompson (1), Rae Thomas (2)
(1) Gold Coast Public Health Unit, Gold Coast Health; (2) Centre for Research in Evidence-Based Practice, Bond University

**Background:** Obesity is a wicked problem; addressing it requires complex solutions and community support. However, meaningful and substantive community engagement is difficult to achieve in the public health planning and service delivery environment. Community or Citizen’s Juries (CJs) are a valuable method to aid public health decision making, particularly for issues that are sensitive or divisive.

**Methods:** A two day community jury took place with 14 randomly selected Gold Coast residents of varying demographics and weight status. The 14 jurors heard evidence from three experts and three organisational representatives, including Gold Coast Health, Gold Coast Primary Health Network and the City of Gold Coast. This was followed by Q&A sessions, reflection, and facilitated and jury led deliberation. The jury provided their verdict, a set of recommendations regarding the proportion of individual and population based approaches to address local obesity; what they considered were the roles of the three organisations; and the types of treatment and prevention strategies they thought should be provided.

**Results:** The three organisations have read and formally responded to the Jury’s verdict, regarding their consideration and capacity to action the recommendations. This presentation will share the Jury’s recommendations and stakeholder responses, and review the local commitment to addressing this important community issue, as demonstrated via this engagement process.

**Discussion:** Our community is our key stakeholder; their engagement is paramount to our health service planning and delivery. This process has demonstrated how CJs can be employed to inform approaches to obesity prevention and treatment services.

38. Endogenous pain modulation is impaired in tennis elbow: A case control observational study

Leanne Bisset (1), Michelle Carty (1), Ashley Smith (1)
(1) School of Allied Health Sciences, Griffith University
**Lightning Talk Abstracts**

**Background:** Tennis elbow is a common musculoskeletal condition characterised by local tissue pathology and features indicative of secondary hyperalgesia. The aim of this study was to evaluate dynamic pain modulation characteristics in people with chronic tennis elbow, and to investigate the relationship between dynamic pain modulation and clinical characteristics.

**Methods:** 25 participants with tennis elbow of at least 6 weeks’ duration and 15 age matched healthy control participants were each evaluated in a single session. Pain and disability were assessed using the Patient-Rated Tennis Elbow Evaluation (PRTEE) and pain-free grip strength. Dynamic pain modulation was assessed using pressure pain threshold (PPT), cold pain threshold (CPT), conditioned pain modulation (CPM) and temporal summation (TS).

**Results:** The tennis elbow group exhibited significantly lower PFG and PPT bilaterally compared to the control group. CPT was significantly impaired on the affected side compared to the matched control side. There was no significant difference between groups for CPM; however, the tennis elbow group exhibited significantly increased facilitation as measured by TS (between-group difference in change score 9.6, 95%CI 3.4 to 15.8). Increased PFG on the affected side was moderately correlated with increased magnitude of CPM response \((r=0.55, p<0.001)\), and poorer PFG was moderately correlated with increased TS \((r=-0.33, p=0.04)\).

**Discussion:** Tennis elbow is characterised by increased dynamic facilitation of pain, as measured by TS, which is associated with poorer function (PFG).

**Funding Source:** Griffith Health Institute & School of Allied Health Sciences, Griffith University.

**39. Isolated radius shaft fractures: A less-recognised injury from rugby tackles**

Donald Ngo (1), Nathan Jeffery (2), Randipsingh Bindra (3)
(1) Faculty of Health Sciences and Medicine, Bond University; (2) Princess Alexandra Hospital; (3) Orthopaedic Surgery, Gold Coast Health

**Background:** Purpose of the Study is to Retrospectively review patients with isolated radius shaft fractures for incidence, causation, management and outcome; to highlight the injury and suggest prevention.

**Methods:** We retrospectively reviewed clinical notes and radiographs of all patients admitted with forearm fractures over 5-year period to identify those with isolated radius shaft fractures (fractures of the middle 2/3s of the radius shaft without any associated dislocation of the proximal or distal radioulnar joints). Patients older than 16 were included. Age, gender, mechanism of injury, management and clinical and radiographic outcomes were recorded. Complications or readmissions were also documented.

**Results:** Of 1444 patients with forearm fractures, 42 patients had an isolated radius shaft fracture (3%). 31 patients, 29 males and 2 females met our inclusion criteria. The mechanism of injury was related to a rugby tackle in 13 patients (42%), skateboarding or bicycle accidents in 10 patients (32%), motor vehicle and motorbike accidents in 2 patients (6%), physical disputes in 3 patients (10%) and fall on outstretched hand in 3 patients (10%). All patients were treated with compression plating.

**Discussion:** Isolated radius shaft fractures are associated with rugby. This emphasizes the importance of better positioning to bear the force of a tackle on the shoulder rather than on the forearm.

**40. Evidence for dietary fibre modification for the prevention of diverticulitis: A systematic literature review**

Megan Crichton (1), Camilla Dahl (1), Julie Jenkins-Chapman (2), Romina Nucera (2), Wolfgang Marx (3), Hannah Mackay (4), Sophie Mahoney (1), Skye Marshall (1)
(1) Faculty of Health Sciences and Medicine, Bond University; (2) Nutrition and Food Services, Gold Coast Health; (3) School of Health and Sports Sciences, Latrobe University; (4) Dietetics Department, The Mater Hospital Brisbane

**Background:** The use of dietary fibre manipulation, probiotics and antibiotics have been hypothesised to benefit the management of diverticular disease. However, dietary recommendations for the prevention of diverticulitis are inconsistent and quality evidence is lacking. This systematic review aimed to pool and appraise existing data to give recommendations for dietary fibre modifications with or without probiotics and/or antibiotics in adults for the prevention of diverticulitis.

**Methods:** Five electronic databases were searched for studies from database inception until March 2017. Studies were critically appraised and pooled using meta-analysis and overall quality of evidence was reviewed using GRADE to make recommendations.

**Results:** Long-term high dietary fibre intake (meeting or exceeding the nationally recommended intake for gender and age) after an acute episode of uncomplicated diverticulitis has resolved is recommended to prevent recurrence (strong recommendation based on very low-quality evidence). In adults with diverticular disease and no previous history of diverticulitis, insufficient research exists to make recommendations for the use of dietary fibre alone to prevent diverticulitis. Co-administration of dietary fibre with antibiotics appears to have superior effects compared to dietary fibre supplementation alone; however, recommendations for this are not
supported in this review due to the high risk of bias in existing research.  

**Discussion:** Further well conducted randomised controlled trials are required to strengthen recommendations.  

**41. Comparison of teats to support successful oral feeding in preterm infants: A randomised cross over trial**  

Angie Canning (1), Rachael Oorloff (1), Timothy Hong (2), Margot Van Drimmelen (2), Liz Chappell (2), Lyn Ahern (2), Robert Ware (3), Kelly Weir (4)  
(1) Speech Pathology Department, Gold Coast Health;  
(2) Newborn Care Unit, Gold Coast University Hospital;  
(3) Menzies Health Institute Queensland, Griffith University; (4) School of Allied Health Sciences/Menzies Health Institute Queensland Griffith University & Gold Coast Health  

**Background:** Oral feeding may be challenging for preterm and medically fragile infants. Difficulty establishing oral feeding may impact on the infants’ health, weight gain and hospital length of stay and increase their risk of developing longer term feeding problems. High variability across teats and within the same brand may impact on the infants’ ability to coordinate Suck-Swallow-Breathe (SSB) coordination and transition to full oral feeding. The Sepal Infant Feeding System was developed by Allied Health and nursing staff at the Royal Children’s Hospital, Melbourne. Preliminary research has suggested good acceptability of the feeding system, however, no published evidence exists regarding infant feeding performance and SSB for preterm/medically fragile infants. We hypothesise that infants using the Sepal teats will have better suck-swallow-breathe coordination & tolerance of oral feeding (as evidenced by no clinical signs of aspiration, physiological stability and reduced infant disengagement cues) than those using Medela (standard care) teats.  

**Methods:** Using a randomized controlled cross-over design, infants will be recruited from the Special Care Nursery at GCUH and randomly assigned to a teat (Medela or Sepal) for their first bottle feed and then use the alternate teat for their second bottle feed. Nursing staff will rate the quality of the infants’ feeding on a study specific rating form which they have been trained to use.  

**Results:** Recruitment is underway, preliminary data will be available for presentation.  

**Discussion:** This study will provide the first evaluation of the Sepal teats on infant feeding performance/swallowing safety and may influence feeding practices within national and international newborn care units.

**51. The implementation of measures to reduce RBC transfusion rates for elective hip and knee arthroplasty patients at a tertiary referral centre.**  

Fiona Clark (1), Gian Sparti (1), Price Gallie (1)  
(1) Gold Coast University Hospital  

**Background:** Blood transfusions are the most common procedure performed in the hospitalised patient. 10% of all red blood cell (RBC) transfusions are utilized in elective orthopaedic surgery. Our objective was to evaluate the impact of measures introduced to promote the efficient use of blood products in 2012 across Gold Coast Health (GCH). Measures were introduced to address the sustainability of RBC product use and reduce transfusion-related risks.  

**Methods:** RBC transfusion guidelines were introduced at GCH in 2012 requiring pre-operative anaemia assessments and transfusion triggers based on an assessment of haemoglobin (Hb) levels and the patient’s clinical status. The use of perioperative tranexamic acid (TXA) was adopted by surgeons during this time to reduce transfusion requirements. Therefore a retrospective chart audit was performed of all elective total knee or hip arthroplasty procedures from 2011 - 2014 at GCH. A total of 1565 records were reviewed quantitatively determine if the measures had a direct impact on transfusion rates.  

**Results:** Descriptive statistics to summarise the dataset will be presented of the following variables: patient demographics; type of surgery; pre transfusion Hb; number of RBC units transfused; use of perioperative TXA; pre-operative Hb levels, discharge Hb; length of stay. Data analysis is in progress to identify measures of variability across this timeframe. The results will be presented in November 2017.  

**Discussion:** Measures introduced to conserve RBC units may lower transfusion rates, reduce transfusion-related risks. These outcomes can inform clinical practice across all surgical specialties and help guide other institutions as they establish their own in-house protocols.

**52. Building research capacity: An analysis of the Gold Coast Health Library literature-search service**  

Sarah Thorning (1), Susan Day (1), Jasna Romic (1), Yvonne Auld (1)  
(1) Gold Coast Hospital and Health Service  

**Background:** Librarians at Gold Coast Health conduct literature searches on a wide range of topics for a wide range of health professionals. Information requests range from quick clinical questions, direct patient care questions, searches for evidence to update local guidelines through to support for research article publication and systematic reviews. Analysis of clinical workforce categories and departments utilising the literature search service will result in a better understanding of who is accessing the service and their stated purpose and requirements. Our intention is twofold; identify and connect with professional groups.
under-utilising the service, and better develop and direct the service to support evidence based practice and research.

**Methods:** 2016 data was recorded using ServiceNow™ (a cloud-based service management solution). Recorded data included requestor, workforce category, department, topic, purpose of search, date job opened/closed and time spent on each search. Data sets were extracted using Excel pivot tables to show relationships between workforce category, department and request quantity, frequency, duration and purpose.

**Results:** Final analysis of data is to be completed before November 2017. Results will include distribution of search requests by workforce category (Allied Health, Doctor, Nurse, other), broad departmental categories, stated purpose (e.g. patient care, clinical question, article for publication, systematic review, guideline [production/review], project scoping [service development/review] etc.). Data will also be presented on turnaround times for different search purposes (e.g. patient care).

**Discussion:** This research will show how clinicians are utilising the service. Data will show the impact of the service in supporting evidence-based practice and research at GCH.

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**53. Dying to do it better; Gold Coast Health Paediatric Allied Health Palliative Care Project**

Angela Delaney (1), Professor Sharon Mickan (2), Dr Anthony Herbert (3), Dr Susan Moloney (4), Michelle Noyes (5), Dr Andrew Broadbent (6), Dr Kelly Weir (7)

(1) Gold Coast Health, Children's Health Qld; (2) Allied Health Research, Gold Coast Health; (3) Division of Medicine, Children's Health Qld, University of Queensland; (4) Paediatric Unit, Gold Coast Health; (5) Qld Paediatric Palliative Care Service; Gold Coast Health; (6) Palliative Care Australia; Gold Coast Health; (7) Menzies Health Institute Queensland, Griffith University & Gold Coast Health

**Background:** Although only one child death occurs for every sixty adult deaths in Australia, caring for palliative and dying children and their families present unique challenges for health professionals. Coordinated, best-practice interdisciplinary paediatric palliative care (PPC) has demonstrated reduced rates of hospital admission, length of stay, number of emergency admissions, and supports families during end-of-life care whilst improving child (less pain, distress and anxiety) and family quality of life. Thus, this scoping project aims to investigate allied health best-practice service needs to support children and families with life limiting conditions requiring palliative and end-of-life care in GCH.

**Methods:** This research will employ a mixed methods design including comprehensive literature review to determine scope of practice for allied health professionals •retrospective clinical audit mapping the patient journey of PPC children receiving PPC services at GCH including inpatient admissions, length of stay, and outpatient occasions of service, adverse events and health related costs •Family interviews & staff surveys regarding care pathways to identify patient priorities, PPC related service needs, facilitators/barriers to providing best-practice PPC.

**Results:** The overall methodology will be described and preliminary results of the retrospective service utilisation data over a 4 year period will be available at the time of the conference.

**Discussion:** It is anticipated that project results will inform allied health scope of practice & service provision to children with life limiting conditions and those requiring end-of-life care within GCHHS. Findings will inform future funding submissions for allied health paediatric palliative care services across GCHHS.

**Funding Source:** Gold Coast Health: Professor of Allied Health Project Funds
15. Identifying glucocorticoid receptors and serotonin transporter (SERT) in lymphocytes and their potential role in serotonergic conditions

Tamara Palmar (1), Suzzanne Owen (1), Roselyn Rose’Meyer (1)
(1) Griffith University, Gold Coast, Australia

**Background:** The specific role of stress and its effects in serotonergic conditions such as depression are yet to be confirmed, but cortisol is believed to play a role. The Glucocorticoid receptor is a binding site for cortisol and found on almost every cell throughout the body, with the alpha subtype (GRα) known to be expressed in lymphocytes. Although various isotypes of GRα have been identified in rats, little is known in regards to the expression of these isotypes in human lymphocytes. This study aims at quantifying the serotonin transporter protein (SERT) and GR isotypes in a lymphocyte model and may be used to determine the effects of stress in immune function and depression.

**Methods:** Following ethics approval, participants who met the required criteria were recruited for this study. In addition to questionnaires, a blood sample was taken in order to isolate lymphocytes. Lymphocytes were then isolated and lysed for protein assays. Western blot analysis determined the expression of both GR isotypes and SERT in lymphocytes.

**Results:** Preliminary results indicate the expression of specific GRα isotypes in lymphocytes. Four primary GRα isoforms were identified in human lymphocytes, in addition to other isoforms. The protein expression of SERT was also demonstrated using Western blots.

**Discussion:** There are many different isoforms of the glucocorticoid receptors, especially the α isotype; each with different abilities to activate gene expression. Identifying the isoforms of GR isotypes and SERT in lymphocytes may provide insight into the role cortisol has in depression and the subsequent changes in immune function observed in these individuals.

**Funding Source:** Heart, Mind & Body; Menzies Health Institute, Griffith University

16. The use of virtual reality to reduce state anxiety while accounting for depression and perfectionism

Dayne Camara (1), Richard Hicks (1)
(1) Faculty of Society and Design, Bond University

**Background:** Anxiety affects approximately 3.6% of the global population. Virtual reality (VR) has the capability of creating a fully immersive and interactive synthetic environment which may be capable of disconnecting the user from their current reality and immersing them into a virtual reality to calm them and improve their psychological wellbeing. The current study aimed to determine whether using mobile VR devices would help reduce state anxiety levels in university students while accounting for depression. It also assessed the association of perfectionism and gender on anxiety.

**Methods:** Participants (n=30) were randomly allocated to two groups: virtual reality (VR) and reading task (RT). Mental stress levels were increased in a controlled setting using The Trier Social Stress Test followed by the STAI-Y scale. During the intervention phase VR group engaged in a virtual tour of Hawaii whilst RT group read a neutral extract from a magazine. Following this, STAI-Y form was filled out again.

**Results:** VR caused a significant (p=0.001) decrease in state anxiety levels compared to RT while controlling for depression. The study also found no gender differences in anxiety scores and that individuals who scored highly on adaptive perfectionism were less likely to be correlated with high state anxiety scores than those who scored high in maladaptive perfectionism.

**Discussion:** VR was found to significantly decrease state anxiety levels in university students. This study also adds to the growing body of supporting evidence that VR is an effective tool to use in terms of improving individuals’ daily life and well-being.

17. Home high flow therapy: How technology is contributing to palliation in paediatric cardio-respiratory disease

Susan Moloney (1,2,3), Ben Auld (2,3), Michelle Noyes (3)
(1) Faculty of Health Science and Medicine, Bond University; (2) School of Medicine, Griffith University; (3) Department of Paediatrics, Gold Coast University Hospital

**Background:** Children with end-stage cardio-respiratory disease may achieve stability with ongoing non-invasive ventilation. However a potential complication of therapy is an indefinite lengthening of their hospital admission. High-flow (HF) therapy is effective in multiple paediatric acute care models and is an area of ongoing research. Its use as stand-alone therapy in the home, separate from non-invasive pressure support models, to our knowledge, has not been described in children to date.

**Methods:** Four children with end-stage cardio-respiratory disease receiving inpatient HF support were assessed for suitability to receive therapy at home using AIRVO2™. Eligibility included: 1. Capacity to deliver HF using a portable oxygen concentrator; 2. Suitability of parents to achieve competence in HF operation; 3. Access to community nursing supports.

**Results:** 1. 4 Children received HF therapy for a period of 4-18 months. 2. 1 child required oxygen therapy with HF. 3. 2 children progressed to recovery and are now aged
three and five years. 4. Cardiac failure progressed for 2 children with one receiving end of life care at home and the other in hospital following an extended period at home. 5. Only one child required a brief readmission to hospital. 6. The cost of home HF was estimated at $100 / day compared with $2500 / day for inpatient admission.

**Discussion:** We have demonstrated that the ability to implement home HF support can provide a cost-effective and family-orientated strategy that can achieve a bridge to either a comfortable end of life, or recovery in the home environment.

**Funding Source:** Humpty Dumpty Foundation - purchase of AIRVO2 for home care.

**18. Understanding patient engagement in outpatient cardiac rehabilitation programs through the Model of Therapeutic Engagement**

Sepideh Jahandideh (1,2), Elizabeth Kendall (3), Samantha Low-choy (4), Kenneth Donald (1), Rohan Jayasinghe (5)  
(1) School of Medicine, Gold Coast Campus, Griffith University; (2) Menzies Health Institute Queensland, Griffith University; (3) School of Human Services and Social Work, Menzies Health Institute Queensland, Griffith University; (4) Griffith Social and Behavioural Research College; (5) Cardiology Department, Gold Coast University Hospital

**Background:** There is burgeoning evidence that patients must be actively engaged in the treatment process to maximize rehabilitation benefits. The rehabilitation process involves a complex interplay of many factors that can impact on engagement. The ability to predict patient engagement in outpatient cardiac rehabilitation is a necessary precursor of interventions that can increase engagement

**Methods:** This prospective study recruited 120 patients eligible for outpatient cardiac rehabilitation programs from the Cardiology ward at Gold Coast University Hospital. Data has been collected over three time intervals to cover all stages of the Model of Therapeutic Engagement. Structural equation modelling, artificial neural network, and weighted linear regression were used to test the hypotheses proposed.

**Results:** Empirical research based on explanatory models of patient engagement in rehabilitation is limited. A conceptual framework for engagement in outpatient cardiac rehabilitation was developed. The factors that enabled patients to be engaged in the cardiac rehabilitation programs were identified. In addition, implementation and examination of the model in practice were also highlighted.

**Discussion:** The Model of Therapeutic Engagement moves the field toward a more complete understanding of the process of engagement in cardiac rehabilitation programs and contributes knowledge about how to make this process more effective.

**Funding Source:** PhD Scholarship

**19. Information seeking behaviours of physicians and nurses**

Sankha Bandara (1), Lawrence Lim (1)  
(1) Health Services Management, School of Medicine, Griffith University

**Background:** Physicians and nurses serve as key care providers in hospital environments (Weng et al., 2013). Patient care is evidenced based (Perzeski, 2012) and healthcare professionals are challenged continuously to provide optimal care under diverse conditions. This requires continuous learning and having access to relevant health information (Ovaska, 2012). Obtaining health information has changed drastically from traditional means (Salinas, 2014) with the development of IT (Naeem & Bhatti, 2015). It is therefore important to ascertain the different types of information and seeking strategies to provide optimal care and to ensure quality of service.

**Methods:** Given the large number of types of information and different means of access, we conducted a systematic review. Data was collected from five online databases ending in 30 articles published within the last five years. We mapped each study’s background information, type of information accessed, information seeking strategy, and key findings.

**Results:** Fifty percent of publications originated from developing countries. While physicians searched information mainly related to diagnosis, therapeutics and research, nurses searched information ranging from diagnosis to administrative procedures. All physicians demonstrated better knowledge in retrieving scientific information through medical databases even in developing countries. Nurses from developing countries (63%) had limited information retrieval skills. Regardless of the economic status of a country, nurses (81.8%) relied on colleagues and printed sources.

**Discussion:** There are differences between developed and developing countries. There are also differences between physicians and nurses in what and how they access health information due to their education and training.

**20. How conversational agents are changing the patient experience?**

Priyanka Metha (1), Alisha Vaz (1), Lawrence Lim (1)  
(1) Health Services Management, School of Medicine, Griffith University

**Background:** Conversational agents are computer applications with a face-to-face conversational style interface, designed to provide information or service via text or audio (Bickmore et al., 2010). It is beginning to
gain momentum, covering the range of patient interactions from appointments to preventive service reminders. There are however, a paucity of research studies in the space of conversational agents especially in healthcare services. This limitation is the primary driver for this research to develop a deeper understanding of the types, uses, and usefulness of conversational agents to generate a positive patient experience.

**Methods**:
Given the disparate views of conversational agents, a systematic scoping review was conducted on conversational agents in various health settings. Data was collected from four online databases. We mapped each study’s background information, type of conversational agent, usage, and health domain.

**Results**:
A total of 28 peer-reviewed articles were included with 86% published in the last five years. The majority of the studies (57%) involves Embodied Conversational Agents (ECA) represented by a human interface. The use of conversational agents are mainly in education/training and behavioral changes. The health domains that involves conversational agents are primarily in mental health and lifestyles such as exercises and wellness.

**Discussion**:
The results suggest that ECA is still the mostly used type of conversational agents. The use of conversational agents has huge potential and can be promoted to other care domains such as aged care and can play a more supportive role.

**Funding Source**:
Early Career Award

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**23. Management of fracture neck of femur in patients over 65 at the Gold Coast Health Service**

Ram Ghimire (1), Niroshan Balasundaram (1), Harish Venugopal (1)  
(1) Gold Coast Health

**Background**:
To compare the quality of care of patients with neck of femur (NOF) fracture at our health service with other national standards.

**Methods**:
We performed a retrospective audit on patients admitted with fracture NOF between January and June 2016. Data regarding care was obtained from their electronic medical records (EMR) and compared against national averages as identified in the Australian and New Zealand Hip Fracture Registry.

**Results**:
- 112 patients were admitted with fracture NOF  
- Mean age was 82  
- 9 patients were managed conservatively and 103 had surgery  
- 83 of 103 (81%) patients had surgery within 48 hours of presentation to hospital  
- 93 of 112 (83%) patients were allowed full weight bear status after surgery  
- 58 of 112 (52%) received anti-resorptive treatment before discharge from hospital  
- 19.7% of patients were originally from home returned back home, whereas 5.6% went into a nursing home  
- The in-hospital mortality and 30-day mortality was 11.6% (13 of 112 patients)  
- Average length of stay was 12 days and median was 8.

**Discussion**:
Overall, standards of care were comparable to national standards. However, mortality rates were significantly higher than national averages. These may be due higher number of nursing-home patients with multiple comorbidities as well as conservatively managed patients compared to national averages. Osteoporosis treatment, even though better than the national average, was still very suboptimal.

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**Wednesday 29th November**

27. Proton Pump Inhibitor Prescription in Patients Admitted to Hospital for COPD exacerbation: ? Room for Improvement

Kristelle Mckay (1), Rachael Raleigh (1), Krishna Bajee Sriram (2,3)  
(1) Pharmacy Department, Gold Coast University Hospital and Health Service; (2) Department of Respiratory Medicine, Gold Coast University Hospital; (3) School of Medicine, Griffith University

**Background**:
Oral and inhaled corticosteroids are an important component of management of patients with exacerbations of chronic obstructive pulmonary disease (ECOPD) and these medications increase the risk of Gastro-oesophageal Reflux disease (GORD). Proton pump inhibitors (PPI) are effective in the short-term management for GORD. Currently there is paucity of data about proton pump inhibitor (PPI) use in patients managed in hospital for acute exacerbations of COPD.

**Methods**:
We performed a retrospective audit of consecutive ECOPD patients managed in our institution over a 12 month period (January-December 2016). Medication histories of patients admitted to the Respiratory inpatient Unit were examined to determine whether they were admitted and discharged on a PPI and/or a course of corticosteroids. Patients were included if they had a Discharge Medication Record (DMR).

**Results**:
During the study period 182 ECOPD patients had a DMR. 66 (36%) patients were taking a PPI on admission and 116 (64%) were not. 81 (45%) patients discharged on a PPI and 101 (55%) did not. 91 patients discharged on a short course of corticosteroids (<14 days) and 12 patients discharged on long term corticosteroids. 33 (36%) patients who discharged on a short course of corticosteroids also discharged on a PPI.

**Discussion**:
Our study demonstrates that almost two-thirds of ECOPD patients who may potentially benefit from PPI use are not being prescribed this medication on discharge from hospital. Future research will need to explore the reasons for the under-prescribing, benefits and harms of PPI use in ECOPD patients.
42. Red Blankets and ROTEM
Igor Fomin (3), Matthew Hedge (3), Debbie Ho (3), Elizabeth Wake (1), Kerin Walters (1), Martin Wullschleger (1,3), Don Campbell (1), James Winearls (1,2,3)
(1) Gold Coast University Hospital; (2) School of Medicine, University of Queensland; (3) School of Medical Sciences, Griffith University

Background: Red Blanket is the process for enabling the rapid transfer of non-responding, shocked trauma patients from the ED/Helipad to the OT for haemorrhage control. The protocol was implemented in February 2015.

Methods: This observational study included all adult trauma patients who had a Red Blanket Protocol activated. Data collection included: patient demographics, ISS, hospital LOS, ICU LOS and blood product usage.

Results: 23 patients had a Red Blanket activated with a median ISS of 29. 15 had an exploratory laparotomy; 2 required IR. ED to Red Blanket protocol activation time was 13min, with (median) 10min from protocol activation to OT. Initial ROTEM analysis was performed 21.5min after ED arrival. 270 PRBC units were transfused in total with a median of 7 units transfused within the initial 24hrs. 17 patients (74%) received PRBC prior to arrival at hospital. Median time from ED arrival to 1st PRBC transfusion was 7min. 298 units of cryoprecipitate were transfused as part of initial resuscitation with a median of 20 Units transfused per patient. Median time from ROTEM® to Cryoprecipitate transfusion was 48min. 60g of FC were transfused as part of initial resuscitation with a median of 4g. Median time from ROTEM to FC transfusion was 19min. 6 patients died in ICU; 1 in the OT.

Discussion: The results indicate that use of ROTEM® guided transfusion strategy can be performed in conjunction with Red blankets without a significant delay in blood products transfusion or initiation of definitive surgical interventions.

Funding Source: Emergency Medicine Foundation; Private Practice - GCHHS

43. Evaluation of patterns of care provided to patients with Motor Neurone Disease at the Gold Coast Hospitals and Health Service
Shameem Beebeejaun (1), Kevin Sampang (2), Jenny Stofmeel (3), Arman Sabet (3,4), Krishna B Sriram (2,4)
(1) Department of General Medicine, Gold Coast University Hospital; (2) Department of Respiratory Medicine, Gold Coast University Hospital; (3) Department of Neurology, Gold Coast University Hospital; (4) School of Medicine, Griffith University

Background: Motor neurone disease (MND) is a neurodegenerative disorder with involvement of upper and lower motor neurons. In view of the incurable nature of disease, a palliative approach focussed on symptom management is recommended. To the best of our knowledge, there are no studies conducted among Australian MND patients that have evaluated the care provided to patients.

Methods: We performed a retrospective audit of all patients with MND who were managed in the Gold Coast Hospital and Health Service over the previous 5 years. Patient specific data was collected by the study investigators by reviewing the electronic medical records.

Results: Data was available for 62 patients. The mean (±SD) age of the cohort was 68 (±10) years and 57% (N=35) were male. The predominant subtypes were bulbar onset (39%), lower limb onset (35%) and upper limb onset (21%). 39% were receiving percutaneous enterostomy feeding, 32% were on non-invasive ventilation and 29% were receiving Riluzole. The median (IQR) duration of survival following diagnosis of MND was 14 (8-29) months. 38 patients had died: 40% in a hospice, 32% in an acute care facility, 16% at home and 13% in a nursing home.

Discussion: Our data has identified statistics pertaining to MND patients in the GCHHS. It demonstrates that these patients require interventions from multiple different specialists and highlights the need for a well funded MND multi-disciplinary team. Further research needs to be undertaken to understand if our cohort of patients have similar outcomes compared to other centres nationally and internationally.

44. Placing new cannulas in the ED: Can ultrasound help?
Amy Archer-Jones (1), Amy Sweeney (1), Stuart Watkins (1)
(1) Gold Coast Health Emergency Department

Background: Peripheral intravenous catheters can be vital for patients’ diagnosis and management. Insertion is challenging for difficult-to-cannulate patients, leading to delays in diagnosis and management, and reduction in patient satisfaction. Ultrasound is a useful cannulation adjunct, shown to improve patient satisfaction, and reduce time to cannulation and attempts required. The RODIE study determines how often GCUH ED patients have multiple attempts at cannulation, whether an ultrasound training program will affect uptake of ultrasound for difficult-to-cannulate patients, and barriers to ultrasound use.

Methods: This is a before and after study, comprised of a series of training programs in ultrasound-guided cannulation, sandwiched between two prospective observation periods.

Results: Observation period one is complete with 564 patients’ data compiled. Cannulation attempts ranged
from 1-10, with 50 patients (8.9%) classed as difficult-to-cannulate (3+ attempts). Ultrasound was utilised for only four patients. Predictors of difficult cannulation included male, no vein palpable, diabetes, history of difficult cannulation and chemotherapy (p<0.01). Interim findings from the ultrasound pre- and post-training questionnaires for 120 participants suggest these sessions increase ultrasound confidence and use. Barriers to ultrasound use included access to machines and staff member feeling it is not required.

**Discussion:** The rate of difficult cannulation in our ED was lower than stated in the literature (12-26%). Predictors of difficult cannulation largely correlated with previous studies. Uptake for ultrasound-guided cannulation training has been high amongst ED staff. We expect that ultrasound use will increase in the post-training period, followed by a decrease in patients requiring 3+ attempts.

**Funding Source:** Emergency Medicine Foundation (EMF)

45. **Could the calcium-sensitisation pathway in corpus cavernosum be a potential novel target for the treatment of erectile dysfunction?**

Amelia Jack (1), Donna Sellers (1), Russ Chess-Williams (1)

(1) Centre for Urology Research, Bond University

**Background:** The main oral pharmacotherapy (phosphodiesterase type-5 inhibitors like Viagra) available for erectile dysfunction (ED) is not effective or is contraindicated for 32% of men. As smooth muscle relaxation is a desired outcome of treatment, the calcium-sensitisation pathway, which involves RhoA/Rho-kinase (ROCK), is under investigation as a novel target in the control of muscle tone in the corpus cavernosum. This study investigated the ROCK pathway in corpus cavernosum, hypothesising that inhibition of this pathway would relax the corpus cavernosum.

**Methods:** The effects of ROCK inhibitors Y-27632 (10uM) and GSK-269962 (100nM) on the contractility of isolated porcine corpus cavernosum tissues was investigated. Phenylephrine concentration-response curves determined maximum contraction and potency (pEC50) values and the subsequent effect of the ROCK inhibitors. Student's t test identified differences between tissue responses (p<0.05=significant difference).

**Results:** Mean maximum contractions induced by phenylephrine were significantly inhibited by 75.2+/-3.6%, by Y-27632 (p<0.01, n=19) and 36.6+/-5.2% by GSK-269962 (p<0.01, n=15). The potency of phenylephrine was also reduced in the presence of Y-27632 (5.84+/-0.12 vs. 4.50+/-0.27, (p<0.01), and in the presence of GSK-269962 (5.85+/-0.17 vs. 5.18+/-0.16, p<0.01).

**Discussion:** Calcium-sensitisation pathway plays a key role in mediating smooth muscle tone in porcine corpus cavernosum. The ROCK inhibitor Y-27632 produced a greater inhibitory effect on the contractions than GSK-269962, which could be due to a non-selective action of Y-27632 on other kinases involved in smooth muscle tone. The ROCK signalling pathway may be a potential target for development of alternative therapies and a new treatment option for ED.

46. **An analysis of current enoxaparin dosing guidelines in mild to moderate renal impairment**

Celeste Bloomfield (1), Micheal Barras (2), Tiffany Lui (3), Carly Fowler (4), Leigh Robertson (5), Amy Legg (6), June Chan (7), Matthew Gibbs (8), Rebecca Lee (9), Rodney Neale (10), Karl Winckel (2)

(1) Pharmacy Department, Gold Coast Hospital and Health Service; (2) Pharmacy Department, Princess Alexandra Hospital; (3) School of Pharmacy, University of Queensland; (4) Pharmacy Department, Toowoomba Hospital; (5) Pharmacy Department, Townsville Hospital; (6) Pharmacy Department, Royal Brisbane and Womens Hospital; (7) Pharmacy Department, The Prince Charles Hospital; (8) Pharmacy Department, Logan Hospital; (9) Pharmacy Department, Ipswich Hospital; (10) VTE Clinical Nurse Consultant, Princess Alexandra Hospital

**Background:** Dosing of enoxaparin in mild to moderate renal impairment is vague. Current guidelines advise dosage reduction when creatinine clearance (CrCl) is <30mL/min. However, dosage reduction when CrCl is <60mL/min has been advocated in the literature. Aim: to identify correlations between enoxaparin dose (mg/kg), anti-factor Xa (aXa) levels and renal function in patients with a CrCl between 30-60mL/min. To use this data to comment on the current practice of dosing at 1mg/kg twice daily in this cohort.

**Methods:** Data was collected retrospectively from the medical records of inpatients and outpatients at eight tertiary hospitals in Queensland between 2000 and 2017. Enoxaparin dose and corresponding peak aXa level was recorded for patients with a CrCl between 30-60mL/min who were prescribed twice daily enoxaparin and weighed <100kg. Patients who received doses between 0.85-1.1mg/kg (to allow for clinician rounding) were analysed and data was ascertained into CrCl ranges. The percentage of therapeutic (0.5-1IU/mL), sub-therapeutic and supra-therapeutic aXa levels were then calculated.

**Results:** 65 patients were analysed with 47.7%(31/65) in the CrCl range of 50-60mL/min, 44.6%(29/65) in 40-49mL/min and 7.7%(5/65) in 30-39mL/min. Overall 32.3%(21/65) of levels were therapeutic, 61.5%(40/65) were supra-therapeutic, and 6.2%(4/65) were sub-therapeutic. The percentage of therapeutic, supra-therapeutic and sub-therapeutic aXa levels per CrCl range included: 41.9%(13/31), 48.4%(15/31), and 9.7%(3/31) respectively for 50-60mL/min, 24.2%(7/29), 72.4%(21/29), and 3.4%(1/29) respectively for 40-
**49mL/min, and 20.0%(1/5), 80.0%(4/5), and 0% respectively for 30-39mL/min.**

**Discussion:** Doses of 1mg/kg twice daily of enoxaparin in mild to moderate renal impairment result in supratherapeutic levels. Dosage adjustment in patients with CrCl between 30-60mL/min may be necessary.

### 47. Monkey business: Improving messaging to prevent potential rabies exposures

Fiona Vosti (1), Rachael Young (1), Satyamurthy Anuradha (1,2)
(1) Gold Coast Health; (2) University of Queensland

**Background:** Rabies is a vaccine-preventable viral disease that is almost always fatal following the onset of clinical symptoms. Each year, rabies kills approximately 55,000 people worldwide. Travel to rabies endemic countries (mostly in Asia) is the major source of potential rabies exposure in Australia. Queensland Health offers government-funded post exposure prophylaxis (PEP) treatment for those affected. This places a substantial financial burden on healthcare resources. Objectives: Our study aims to 1) describe the epidemiology of potential rabies exposures for Gold Coast (GC) residents and overseas travellers in 2016; and 2) better understand the knowledge, attitudes and behaviours associated with human-animal interactions in order to identify appropriate risk communication strategies and deliver public health messages.

**Methods:** Qualitative semi-structured telephone interview of all patients who are followed up by the GC Public Health Unit with a potential rabies exposure between July and November 2017. Questions will be asked relating to circumstances resulting in potential exposures; appropriateness of current public health messaging and dissemination methods; and utilisation of new or different risk reduction strategies.

**Results:** In 2016, there were 59 rabies exposures requiring PEP with the majority aged 20-40 years (M:F = 28:31). Nearly half of the exposures were due to interactions with monkeys; a third of all exposures occurred in travellers to Bali, particularly those visiting the Monkey Forest. The survey results are not currently available as survey is ongoing.

**Discussion:** This study will provide information around future public health prevention efforts aimed at better educating Australian travellers to rabies endemic areas.

### 48. Glycoprotein biomarkers of metastatic melanoma

Jodie L. Abrahams (1), Matthew P. Campbell (1), Nicolle H. Packer (1)
(1) Institute for Glycomics, Griffith University

**Background:** Metastasis accounts for the majority of mortality associated with melanoma, as limited treatment options exist for advanced disease stages. One avenue that has so far been underexplored in melanoma research is the glycosylation pathway. Glycans (sugars) attached to proteins produced by cancer cells are known to play an important role in cancer progression and are promising biomarkers and targets for melanoma. Here, we investigate the relationship between glycosylation, metastatic phenotypes, and patient prognosis, as well as report the first in-depth glycan characterisation of cell surface proteins and the Melanoma cell adhesion molecule (MCAM) from metastatic melanoma samples.

**Methods:** An orthogonal analytical workflow was optimised to accurately identify and quantitate oligosaccharides released from lymph node tumours from stage III/IV melanoma patients and a cell line model. N-glycans were enzymatically released from cell membrane protein fractions from and characterised using a Liquid Chromatography Mass spectrometry glycomics platform. Structures were fully assigned using MS/MS fragmentation patterns, PGC retention behaviours, and linkages confirmed using an array of exoglycosidase enzymes.

**Results:** Over 80 glycan structures were identified, including mannose, hybrid and complex type glycans, differences in structural features including the degree of branching, sialylation and fucosylation were observed between individuals. The MCAM-specific glycosylation showed signatures that clearly change in abundance between patients and epitopes that has previously not been reported in melanoma.

**Discussion:** This study contributes to our understanding of glycosylation alterations in melanoma metastasis towards using specific glycosylation changes as novel biomarkers to aid in patient management for monitoring metastasis and predicting prognosis.

### 49. The influence of ultrasound imaging on the perceived task complexity of trunk stability exercises

Doris Koon (1), Thomas Mayer (1), Liam Sandstrom (1), Luke Vanderfeen (1), David MacDonald (1,2,3)
(1) School of Allied Health Sciences - Physiotherapy, Griffith University; (2) Menzies Institute, Griffith University; (3) The University of Queensland, School of Health and Rehabilitation Sciences, Physiotherapy

**Background:** A commonly used trunk stability exercise, the abdominal hollow, facilitates abdominal muscle coordination to optimise spinal health. However, the abdominal hollow is perceived to be more complex than other trunk stability exercises. This is important because greater perceived task complexity can compromise exercise adherence. Ultrasound imaging provides visual feedback of abdominal muscle contractions during performance of the abdominal hollow and decreases the number of repetitions required to successfully perform
Healthy participants (n=6) were stimulated with ADP and was stimulated with ADP expression. Platelet rich plasma was obtained from healthy participants targeting platelets (CD42b-APC), P-selectin (CD62P-PE) and fibrinogen receptor (PAC-1-FITC) expression. Platelet rich plasma was obtained from healthy participants (n=6) and was stimulated with ADP (5 - 40uM) or TRAP (10 - 40uM) for 5 minutes. Samples were incubated with antibodies for 30 minutes, fixed, washed and subsequently examined using flow cytometry (BD LSR II Fortessa). Eptifibatide acetate (2uM) confirmed the capacity of the method to quantify platelet inhibition.

**Results:**
CD62P and PAC-1 expression were significantly increased upon ADP or TRAP stimulation, with maximal activation occurring at >5uM ADP or >10uM TRAP. A dose dependent increase in CD62P expression was reported with increasing concentrations of TRAP. Eptifibatide significantly inhibited PAC-1 and CD62P expression upon maximal stimulation with ADP. Eptifibatide did not significantly inhibit TRAP stimulated CD62P expression, but inhibited PAC-1 expression.

**Discussion:** The developed flow cytometry method indicates that 10uM ADP and 20uM TRAP were optimal agonist concentrations that maximally activated platelets, with experiments also demonstrating robust inhibition of activation in the presence of Eptifibatide. These data indicate that this assay, in conjunction with ROTEM and Multiplate® analysis, could further assist in determining individual patient response to antiplatelet agents.

**Funding Source:** Griffith University, Gold Coast University Hospital

**54. Dissecting the worm: Can real-time polling measure medical student comprehension during lectures?**

K. Meng Tan (1,2), Anna T Ryan (2), Agnes E Dodds (2)
(1) The Royal Melbourne Hospital; (2) Department of Medical Education, The University of Melbourne

**Background:** Large-group lectures remain a staple of undergraduate medical education. Evaluating their educational impact is usually retrospective, time-consuming and probably inaccurate. We explored feasibility and acceptance of a novel, web-based, real-time method of estimating student comprehension during medical school lectures.

**Methods:** Second-year medical students of RMH Clinical School were asked to use a designated website to rate their own understanding of lecture content as often as they wished during lectures; the website also displayed the average class rating in real time. An observer documented a timeline of content presented. Students were surveyed twice regarding useability and usefulness of the interface.

**Results:** Data were collected for 17 lectures over 8 weeks from 41 participants. 3.2 ratings (median) were submitted per user per lecture (range 2.4-9.5), from 12 users (range 4-23). After the first week, user numbers remained stable until the end of the study period. Variability in ratings identified potentially poorly understood content in 9 of 17 lectures (53%), especially in lectures with higher user numbers.

**Poster Abstracts**
numbers and more ratings per user. By the end of the study period, 9 of 11 survey respondents (73%) agreed that the interface was easy to use and 7 (64%) agreed that it provided useful information, but only 3 (27%) indicated willingness to continue using it.

**Discussion:** We found that continuous real-time web-polling during lectures is feasible, sustainable and informative. When more users participate, poorly understood concepts are more likely to be identified. The value of sharing this with educators should be explored.

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**Thursday 30th November**

55. Geocoding of paediatric injury due to recreational activities

Caitlin O’Hare (1), Phoebe Brandis (1), Ben Gardiner (1,2), Martin Wullschleger (2)

(1) School of Medicine, Griffith University; (2) Trauma Service, Gold Coast Health

**Background:** Paediatric injuries due to recreational activities are on the rise in Australia, and are a large cause of morbidity in the Emergency Department. (1,2) Our previous research titled Geocoding the Trauma Registry shows that geocoding of trauma is useful in identifying clusters of paediatric injury on the Gold Coast. (3) Previous research has focussed on the type of area where injury occurs, rather than the exact geographical location. (4-6) To do this we aim to analyse the available data over the last 4 years for paediatric injuries due to recreational activities. We also wish to suggest methods to improve paediatric safety by identify locations causing severe injuries, facilitating prevention interventions.

**Methods:** Data collection of geocodes and mechanism of injury of a retrospective dataset of Gold Coast University Hospital patients, that meet the inclusion criteria of the Australian Trauma Registry. The inclusion criteria are patients presenting from 2014 to 2017 who are 12. (7) Mechanisms of injury to be included are: skateboarding, bicycle riding, mountain bike riding, skateboarding, scooter and surfing. Location of injury will be bio-spatially mapped and cluster analysis will be performed using TABLAU. Trends based on location and mechanism of injury will be explored.

**Results:** Preliminary results show there may be areas of increased paediatric injury at certain locations on the Gold Coast.

**Discussion:** Through this research into paediatric injuries, hotspots of accidents may become apparent which may allow identification of high risk areas, facilitating prevention and interventions.

56. Assessing the agreement between patients and dietitian, and the usability of the PG-SGA and Pt-Global app in the Australian oncology setting

Astrid Naranjo (1), Jessica Abbott (2), Laisa Teleni (1), Elizabeth Isenring (1)

(1) Bond University; (2) Gold Coast University Hospital

**Background:** Australian dietitians have been trained to administer the PG-SGA in its entirety. In 2014, its electronic version (Pt-Global app) was released. The mode in which this tool is administered varies internationally, differing within countries and settings. This study evaluated the agreement between patient versus dietitian-administered patient-generated sections of PG-SGA and Pt Global app, and assessed the usability, timing and assistance required to complete the patient-generated section of both tools.

**Methods:** Cross-sectional study of 200 consecutive adults receiving ambulatory anticancer therapy at Gold Coast University Hospital. Patients were randomised into four groups: two using the PG-SGA and two the Pt-Global app. Agreement between patient and dietitian-administered patient-generated section scores, nutrition impact symptoms (NIS) scores and Global-Ratings for both tools were tested. The usability of, time and assistance required to complete each tool was also investigated.

**Results:** Irrespective of the tool, excellent agreement occurred between patients and dietitian-administered scores for the PG-SGA SF (ICC > 0.89), NIS scores (ICC > 0.079) and Global-Rating (K > 0.82). Median time to completion of the SF was significantly longer in the patient-administered versus dietitian-administered SF in both tools. Patient-generated section of both tools were completed in < 4 min. Assistance to complete the SF when patient-administered was required by 46.5% Pt-Global app versus 31.3% of PGSQA participants.

**Discussion:** Patient versus dietitian-administration scores and global-ratings of both the PG-SGA and Pt-Global app have excellent agreement with minimal differences in time to complete, suggesting that either can be used interchangeably in practice. Feasibility of implementing the patient-generated component for routine nutrition screening should be assessed given the proportion of patients that required assistance.

57. Dose and content of upper limb training at Gold Coast University Hospital

Ashlea Walker (1,2), Annie McCluskey (3), Kathryn Hayward (4), Sonya Shrimpton (1), Jennifer Quaill (1), Ruth Barker (2)

(1) Gold Coast Hospital and Health Service; (2) James Cook University; (3) University of Sydney; (4) University of British Columbia

**Background:** In inpatient rehabilitation, the dose and content of upper limb training is usually less than recommended to enable improvement in upper limb function. The aim of the study was to determine the dose...
58. DeNovo discovery of natural products that could potentially "starve cancer cells to death"
Stephanie S. Schweiker (1), Amanda L. Tauber (1), Stephan M. Levenson (1)
(1) Medicinal Chemistry Department, Faculty of Health Sciences and Medicine, Bond University

**Background:** Natural Products have long been a source for remedies and have proven to be promising anticancer lead molecules. Many successful anticancer drugs are natural products or their analogues. Recent literature has highlighted ADP-ribosyl transferase member 8 (ARTD8), also known as PARP14, as a potential therapeutic target. ARTD8 levels have been shown to be increased in cancer cells when compared to normal cells. ARTD8 has been shown to enhance cell survival through the activation of oncogenes, promotion of the Warburg effect, and making B cell lymphomagenesis more aggressive. It is possible that utilizing the genomic instability caused by inhibition of ARTD8 in conjunction with known cytotoxic chemotherapeutic agents that we may be able to target resistant cancers, such as, late stage prostate cancer.

**Methods:** This study investigates a series of known natural product compounds as potential ARTD8 inhibitors through a combination of computational chemistry techniques and ARTD inhibitor assays.

**Results:** Novel target scaffolds have been designed as promising anticancer lead molecules for future drug design.

**Discussion:** Inhibition of ARTD8 could potentially lead to the “starvation of cancer cells” selectively over normal cells and possibly new treatment options for patients with metastatic cancers.

**Funding Source:** Bond University

59. Relationships among trait emotional intelligence, psychological distress and maladaptive perfectionism in Gold Coast university students
Lily Sheppard (1), Richard Hicks (2)
(1) School of Health and Human Sciences, Southern Cross University; (2) Faculty of Society and Design, Bond University

**Background:** Psychological distress (PD) and maladaptive perfectionism (MP) have been identified as common factors amongst university students. Whilst there has been a relationship identified between MP, anxiety, depression and stress, there has been little research investigating MP’s relationship with a more generalised form of PD. Trait emotional intelligence (TEI) has also been identified as common factors that mediate similar relationships like MP and PD. Therefore, the currently study aimed to investigate MP’s relationship with a more generalised form of psychological distress and also investigate TEI as a potential mediator of that relationship in university students.

**Methods:** The study involved 171 student participants from three Gold Coast Universities via a convenience sample of mainly undergraduate students. The relationship between maladaptive perfectionism, TEI and psychological distress was examined using hierarchical regression, and a mediation analysis (examining whether TEI mediated the relationship between MP and PD).

**Results:** MP and TEI together significantly predicted Psychological Distress; and TEI was found to be a partial but not full mediator of the relationship between MP and PD.

**Discussion:** TEI plays a positive role in reducing PD in students who may be show characteristics of maladaptive perfectionism. Further studies are needed but it seems that classroom and counselling interventions that build TEI can potentially assist the reduction of PD in university students.

60. Fibrinogen replacement in traumatic haemorrhage
Debbie Ho (1), Erick Chan (1), Martin Wullschleger (1,2), Don Campbell (2), Elizabeth Wake (2), James Winearls (1,3)
(1) School of Medicine, Griffith University, Gold Coast; (2) Department of Trauma, Gold Coast Health; (3) Intensive Care Unit, Gold Coast Health

**Background:** Severe traumatic haemorrhage and Trauma-Induced Coagulopathy (TIC) are associated with poor...
61. Trauma tertiary survey and missed injury rates after the introduction of a dedicated Trauma Service at a major trauma centre

Kate Dale (1), Don Campbell (1,2), Martin Wullschleger (1,2), Gerben Keijzers (1,2,3)

(1) Gold Coast Hospital and Health Service; (2) Griffith University; (3) Bond University

Background: The Trauma Service at our institution aims to complete TTS within 24 hours of admission. We hypothesise that TTS performance and missed injury rates increase after the introduction of a dedicated Trauma Service by comparing our data with a previous study from the same institution. The previous study reported TTS completion rate of 27% and a 3.2% missed injury rate (Keijzers et. al., 2011).

Methods: All patients triggering a ‘Trauma Call’ with high risk mechanism, two or more body systems injured or complex isolated chest or abdominal injuries who presented to our institution from 1 July 2014 to 30 June 2016 were prospectively added in the Trauma database. We analysed all TTS and missed injury data for these patients. Patients discharged within 24 hours were excluded for the comparison part of the study.

Results: Within a 24 month period 2612 ‘Trauma Call’ patients presented of which 1234 patients were discharged within 24 hours and therefore excluded. Of the remaining 1378 patients, 91% (n=1248) had a TTS completed. A total of 123 injuries were detected representing an overall missed injury rate of 8%.

Discussion: Formal TTS completion improved by 63% and identification of missed injuries increased by 5% with the introduction of a dedicated Trauma Service.

62. Emergency Nurses knowledge and understanding of their role in recognising patients with sepsis: A clinical review

Amanda Harley (1), Amy N B Johnston (1,2), Kerina J Denny (1), Gerben Keijzers (1), Julia Crilly (1,2), Debbie Massey (3).

(1) Department of Emergency Medicine, Gold Coast Health; (2) Menzies Health Institute QLD, Griffith University; (3) School of Nursing, Midwifery and Paramedics, University of Sunshine Coast

Background: Sepsis remains a significant cause of morbidity and mortality for patients who present to emergency departments (EDs); accounting for more than 500,000 ED visits per year. Early identification of sepsis is important, so that appropriate, time-critical, treatments can be initiated. Existing guidelines do not specify the role of nurses in sepsis recognition or response.

Methods: This study uses an exploratory case study research design to address gaps in our understanding of the complex, poorly understood phenomena of ED nurse recognition of and response to patients with sepsis. This qualitative component of a wider mixed-methods study will draw on semi-structured interviews undertaken with ~20 ED nurses who have cared for a patient with sepsis. Interviews explored nursing perceptions and practices around recognising and responding to patients with sepsis, their awareness of and familiarity with validated sepsis recognition tools and the barriers and benefits they identify from implementing such tools.

Results: Themes derived from the interview transcripts were developed inductively. To limit risks of errors, and to ensure dependability, transferability, confirmability and credibility, clear analysis guidelines were used.

Discussion: Improvements in the care of the patient with sepsis is of local, national and international importance reflected by the emerging literature demanding evidence-based guidelines. As part of a multi-disciplinary team,
nurses have a vital role in the recognition and response to sepsis. The knowledge and insights gained from this study can be used to inform local and state-wide ED policies, and enrich educational packages that will improve quality of patient care and outcomes

63. "I’m not just a baby sitter": An exploration of masculinity shaping men’s experiences of first-time fatherhood

Lily Lewington (1), Bernadette Sebar (1), Jessica Lee (1)
(1) School of Medicine (Public Health), Griffith University

Background: This research seeks to explore how masculinity shapes men’s experiences of first-time fatherhood in Australia. In particular, it focuses on how men navigate contradictory roles of fatherhood and the impact this has on their identity not only as men but also as fathers.

Methods: An interpretive phenomenological approach was employed, allowing for insight into the lived experiences of first-time fathers and how hegemonic masculinity influences these experiences. Fifteen first-time fathers were engaged via purposive and snowball sampling methods. In line with interpretive phenomenology, in-depth interviews were conducted and the responses were analysed using thematic and discourse analysis tools.

Results: Findings revealed that fathers were found to both adhere to and challenge masculine ideals of fatherhood. Men described both traditional and non-traditional roles in their becoming a father, being a father and navigating fatherhood and manhood. This continuation and contestation of masculine discourses in the experiences of fatherhood was found ultimately to influence their experiences of involvement with childcare and employment, as well as their relationships with partners and social groups.

Discussion: Overall, these findings highlight the power of hegemonic masculinity in defining what it means to be a man and consequently what it means to be a father. An understanding of how fathers negotiate their new role and the impact of societal expectations is a necessary first step in addressing the growing concern for fathers’ mental health and may provide the basis for policies to be more inclusive of involved fatherhood.

64. A literature review informs two research questions to assess potential overuse of antibiotics and hospital admission

Hayley You (1), Adam Brand (2), Amy Sweeney (2,3), James Innes (2)
(1) School of Medicine, Griffith University; (2) Department of Emergency, Gold Coast Health; (3) Emergency Medicine Foundation

Background: This review evaluated the current national and international guidelines for corresponding and contrasting recommendations on the assessment and management of diverticulitis within the Emergency Department in order to construct appropriate questions for future research.

Methods: National Guideline Clearinghouse, National Institute for Health and Care Excellence, NHMRC Clinical Practice Guidelines Portal, AustHealth, CINAHL, Cochrane, EMBASE, MEDLINE and PubMed were searched for guidelines on the diagnosis and management of diverticular disease and diverticulitis. Inclusion criteria used were full-text papers available in English with a publication date within 10 years. Eight guidelines were included, in conjunction with randomised clinical trials and systematic reviews of literature. Areas of controversy and consensus were identified.

Results: Upon review of the guidelines, two areas of uncertainty in the management of diverticulitis emerged. Firstly, recent randomised controlled trials and Cochrane systematic reviews have suggested that antibiotic therapy has no clear benefit in aiding recovery, reducing complications, or preventing recurrences of episodes for this condition. Hence, the previous standard use of antibiotics has become contentious. In addition, guidelines advocate for outpatient management of uncomplicated diverticulitis.

Discussion: This review of guidelines informed two audits currently underway. The first audit examines the use of antibiotics in diverticulitis patients presenting to the Emergency Department; the second examines the potential to avoid admissions for patients with uncomplicated diverticulitis.

Funding Source: Amy Sweeney is funded partially by the Emergency Medicine Foundation

65. Small interfering RNA for the treatment of human metapneumovirus infections

Kathleen Nitschinsk (1), Nigel McMillan (1,2), Daniel Clarke (1,2)
(1) School of Medical Science, Griffith University; (2) Menzies Health Institute Queensland, Griffith University

Background: Human metapneumovirus (hMPV) is implicated in an array of respiratory illnesses ranging from asymptomatic infection to severe bronchiolitis. Currently, there is no reliable vaccine or specific antiviral therapy. The use of RNAi has the potential to change that. We examined a newly synthesised panel of nine small interfering RNAs (siRNAs) directed against key non-structural genes; nucleoprotein (N), phosphoprotein (P)
and large polymerase (L) to identify sequences that display potent viral gene silencing in vitro.

**Methods:** The siRNA-mediated inhibition of hMPV infection was assessed by delivering each siRNA (40nM) to A549 cells prior to infection with the hMPV (Can97-83). Viral titres were determined using immunoplaque assays on Vero E6 cells with siRNA-mediated mRNA degradation shown by qRT-PCR. Cytokine activation was assessed using qPCR to validate that the effect seen was due to siRNA-mediated mRNA degradation.

**Results:** Silencing levels were consistent for significant reductions in viral titre and RNA levels for hMPV_siN1, with greater than an 83% decrease seen for both endpoints. Two siRNAs targeting the P gene, hMPV_siP1 and hMPV_siP3, caused an 82% and 63.2% decrease in viral plaque formation respectively, which correlated with a 95% and 53% reduction in P gene expression. SiRNAs directed against the L gene had no antiviral effects. The viral infection was specific and not mediated by an antiviral IFN-β response or cell death.

**Discussion:** Findings presented here confirmed the highly potent, sequence-specific antiviral effect of siRNAs targeting the N and P gene of hMPV. These results may facilitate the development of a novel therapeutic agent in the future.

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### 66. A model for establishment of a dietitian led gastroenterology clinic in a large tertiary hospital

Rumbidzai Mutsekwa (1), Anthony Whitfield (2), Russell Canavan (2), Alan Spencer (1), Rebecca Angus (1)

(1) Nutrition and Food Services, Gold Coast Health; (2) Gastroenterology, Gold Coast Health

**Background:** Models of care utilizing allied health practitioners working in an extended scope of practice (ESP) as the first point of contact for patients have proven effective in managing waitlist demand in a range of specialities. Key features in the establishment of a dietitian led gastroenterology clinic (DLGC) are described.

**Methods:** A business concept was developed for a DLGC to provide care for a select cohort of gastroenterology patients. Development of eligibility criteria was based on the Queensland Gastroenterology Clinical Prioritization Criteria 2016. An audit of eligibility criteria was performed, and eligible patients offered an appointment in the DLGC. After clearance of the initial backlog, ongoing triaging and reallocation to the DLGC was conducted by the gastroenterology consultant.

**Results:** The eligibility criteria developed for the DLGC included category 2, <50 years of age with dyspepsia/heart burn, reflux, abdominal pain, constipation, diarrhoea, or altered bowel habits and no alarm symptoms. 346 new and 272 review patients were seen over the initial 12 months. The dietitian organised screening pathology under ESP. Patients were provided with dietary and lifestyle management strategies and to date, 68% of patients have been discharged to the care of their GP with satisfactory symptom resolution. 28 patients (8%) were assessed as requiring medical review and were triaged back to the gastroenterologist. Enablers for successful establishment included alignment with broader health service strategic objectives, strong support from management, positive relationships between stakeholders and an opt-out process.

**Discussion:** A model for successful formation and implementation of a DLGC has been established.

### 67. Development of dietitian assistant ward guidelines

Jennifer Anderson (1), Julie Jenkins-Chapman (1), Lucy Milliner (1)

(1) Nutrition and Food Services, Gold Coast Health

**Background:** Allied health assistants (AHAs) can make valuable contributions to patient care, providing improved clinical outcomes and increasing patient satisfaction. During the training of new staff, and the rotation of existing staff, it became apparent that operational aspects of AHA workload varied considerably between wards. It is important to ensure AHAs work within scope of practice on each ward. The aim of this work was to develop clear guidelines for dietitian assistants in order to provide safe and high quality patient care.

**Methods:** Comparisons were made with the dietitian assistant role descriptions and the AHA framework. Ward details, location, food service variations (e.g. menu delivery times), key staff members and contact details were collated. Traits and priorities of individual wards were identified by collaboration with ward dietitians. Formalised documentation templates were then created.

**Results:** Substantial variation was identified in ward traits, clinical supervisor workloads and need for dietitian assistant support. Thus, standard guidelines for dietitian assistant support roles would not be effective. In addition to assisting with staff orientation, the development of ward specific guidelines enabled identification of gaps in dietitian assistant training and supervision needs depending on ward/caseload allocation. They also assisted in distinguishing between full and advanced scope roles and in ensuring adherence to scope of practice. The formalised documentation templates developed ensured that record keeping is concise, relevant, appropriate and accurate.

**Discussion:** Generic AHA work instruction guidelines are not beneficial. Ward specificity is required to optimise effective work processes.

### 68. Investigation of residents' perspectives on the SHPA Pharmacy Residency Program
Poster Abstracts

Nallini Mc Cleery (1)
(1) Pharmacy Department, Gold Coast Health

Background: The Society of Hospital Pharmacists of Australia (SHPA) Pharmacy Residency Program facilitates the development of a competent general level pharmacist over 2 years. This project explores GCHHS residents’ pharmacist experience and perceptions during the implementation phase of this pilot program.

Methods: Residents completed a survey within their first 4 weeks to establish pharmacist experience and initial perceptions of the residency program. The survey consisted of multiple choice and open response questions. As part of the survey, residents rated their confidence in 5 domains and 30 competencies as outlined by the SHPA Residency Framework, using a Likert scale from 1-very confident to 5—not confident.

Results: Six residents were enrolled in the program in March 2017 and all completed the survey. All residents perceived the program would improve pharmacist practice. Of this, 33% considered feedback and support to be integral contributors. Sixty-six percent of residents reported lower levels of confidence (a score of 3, 4 or 5) within the domain: “Critical analysis, research and education”; competency: “supervising others undertaking research.” Within the domain: “Expert professional practice”; competency: “using reasoning and judgement”; 33% reported lower levels of confidence (a score of 2, 3 or 4). Fifty percent of residents also identified these 2 domains as learning gaps which formed their highest learning priorities.

Discussion: The survey has generated important insights into residents’ pharmacist experience and initial perceptions which will form a baseline. Residents will be requested to complete this survey at 12 and 24 months to establish if learning needs are being met.

69. Critical evaluation of a targeted point of care ROTEM® guided coagulation and haemostasis management programme in severe trauma

Kerin Walters (1,2), Elizabeth Wake (1,2), Don Campbell (1), Martin Wullschleger (1,3), Debbie Ho (1,3), Aashish Chalasani (1,3), Igor Formin (1,3), James Winearls (1,2)
(1) Department of Intensive Care Unit, Gold Coast University Hospital; (2) GCUH Critical Care Research Group, Gold Coast University Hospital; (3) School of Medicine, Griffith University

Background: The aim of this observational study was to critically evaluate the implementation of a targeted point of care (POC) ROTEM® device to guide coagulation and haemostasis management at GCUH in ICU trauma patients with an ISS >12.

Methods: Data was collected retrospectively over a 15 month period per group and included: patient demographics, ISS, APACHE II scores, LOS – hospital/ICU, PRBC usage, and procedures to cease bleeding.

Results: 326 patients enrolled, with 151 patients in the pre ROTEM® group and 174 patients in the post ROTEM® implementation group. Both had a median age of 43, and 79% (120/138) male. The median ISS for both groups was 22. Apache II median scores were 13 vs 14. Hospital median LOS was 10.2 vs 11.2 days. Both had median ICU LOS of 2.8 days. Mortality based on hospital outcome in pre group was 8% (12) vs 11% (20) in post group. 11% (16) vs 17% (30) had procedures to cease bleeding in OT.5% (8) vs 6% (13) had IR to cease bleeding. 5% (8) vs 8% (14) had both OT and IR. In the pre group 25% (38) patients required a transfusion of PRBC, median 4.5 units transfused vs 36% (62) in the post group, median 4 units transfused. In the post group 92% (57) received ROTEM® guided transfusions.

Discussion: Patients in the post group required more OT/IR interventions with less PRBC transfused. This group of patients had ROTEM® guided transfusion strategies in 92% of cases, demonstrating widespread uptake of the ROTEM® POC device.

Funding Source: Gold Coast Hospital and Health Service Private Practice Fund, Emergency Medicine Foundation, Queensland Emergency Medicine Research Foundation

70. The role of Speech-Language Pathologists in food services: A survey

Katina Swan (1), Rachel Wenke (1,2,3), Marie Hopper (1), Melissa Lawrie (1,2)
(1) Speech Pathology Service, Gold Coast Health; (2) School of Allied Health Sciences, Griffith University; (3) Allied Health Clinical Governance, Education and Research, Gold Coast Health

Background: Swallowing difficulty, or dysphagia, is a common condition which may result in a number of serious health conditions including malnutrition, dehydration, choking and aspiration pneumonia (acute lung infection). As part of their role in dysphagia management, Speech-Language Pathologists (SLPs) often prescribe modified diets and fluids which are prepared and delivered to patients by Food Services staff. The aim of this survey was to investigate SLPs’ self-reported duties relating to Food Services, prevalence of dedicated Food Services SLP roles and SLP perceptions of such a role.

Methods: A pilot prospective cross-sectional survey was undertaken. The online survey was distributed to 1683 SLPs in Australia and New Zealand and included open-ended and multiple-choice questions regarding current SLP practices related to Food Services and perceptions of a specialist SLP Food Service position.

Results: A total of 116 SLPs responded to the survey. The majority (88%) of respondents indicated that Food Service related tasks were absorbed into their existing
clinical loads, with only 8% of respondents having a dedicated SLP Food Services role. Overall, respondents perceived such roles as having potential to positively impact communication and processes between SLPs and Food Services and improve service-wide management of modified foods and fluids.

**Discussion:** Although dedicated roles in Food Services were infrequently reported, most SLPs perceived a dedicated role as having the potential to enhance the relationship between SLPs and Food Services and ultimately improve the quality and safety of patient care.

**Funding Source:** Allied Health Leadership and Governance Team, Gold Coast Health

### 71. The development of an effective Learning Management System (LMS) for Gold Coast medical students

Samuel Morgan (1), Jeremy Lynch (1)
(1) School of Medicine, Griffith University

**Background:** LMS can augment and complement an institution’s core teaching objectives. Used in this manner, LMS can improve student satisfaction, performance and academic outcomes, particularly in a problem bases learning (PBL) environment where self-directed is emphasised. However, having a broad, all-encompassing LMS exposes vital weakness in its ability to achieve positive outcomes for students. Our objective was to identify the deficiencies in the current LMS in view of developing an effective LMS.

**Methods:** Using an online survey via social media and email, data were collected regarding consensus on the current LMS, its strengths and drawbacks from students of years 1-4 of Griffith Medical School.

**Results:** Students appreciate the need for a LMS. However, the current LMS does not adequately provide access across all electronic devices. With regard to its interface and capabilities, the current LMS does not effectively portray lecture content or the medical school specific objectives (self directed PBL clinical and communication skills). Additionally, it does not encourage communication or collaboration between students or between students and their academics. Addressing the concerns identified, a specialised LMS for medical students was created to facilitate the problem based learning methodology in a collaborative and interactive manner. The new interface is also equipped to promote lecture content via video, text, quizzes and FAQs of lecturers for both students and academics alike.

**Discussion:** This study has provided sufficient stimuli to proceed with the next phase where the specialised LMS’s effectiveness will be assessed with first and second year medical students.

### 72. Antibiotic prescribing in emergency

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**Background:** Antimicrobial resistance (AMR) is a global health problem. Appropriate prescribing of antimicrobials decreases hospital length of stay and patient morbidity and mortality, whereas inappropriate prescribing drives treatment failure and AMR. The Emergency Department (ED) is a setting with unique antimicrobial prescribing challenges. The current project aims to identify how antibiotics are prescribed in a busy, tertiary-level ED.

**Methods:** The current project is a descriptive study, investigating antibiotic prescribing within a tertiary-level ED. Four distinct weeks throughout 2016 have been chosen, in order to avoid time of year dependent cofounders. All patients presenting to the ED within the study period were screened to identify incidences of antibiotic prescribing.

**Results:** 7827 patients presented to the GCUH ED over the study period and ~14% of these presentations involved the initiation of antimicrobials. The most commonly administered antimicrobials were: extended-spectrum penicillins, anti-staphylococcal penicillins, aminoglycosides, first generation cephalosporins, and third generation cephalosporins.

**Discussion:** Antimicrobials are a common intervention in the ED however, despite this, antimicrobial stewardship initiatives rarely focus on the ED. Future research directions involve identifying the incidence of inappropriate antimicrobial prescribing in the ED, and identifying factors associated with inappropriate antimicrobial prescribing. It is hoped that such research could lead to the implementation of targeted ED-specific strategies to improve antimicrobial prescribing and, ultimately, reduce the harms associated with unnecessary or inappropriate antimicrobial administration.

**Funding Source:** Emergency Medicine Foundation Trainee Research Grant; Dr Denny is supported by a Queensland Health Junior Doctor Research Fellowship

### 73. Combined and independent effects of high intensity resistance training and bone medication to reduce fracture risk: a RCT protocol

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Background: Antiresorptive medications increase bone density and decrease risk for vertebral fracture, while high intensity resistance and impact (HiRIT) exercises increase balance, bone and muscle strength and decrease risk for falls and non-vertebral fractures. Medications are typically prescribed by doctors and exercise by exercise specialists – frequently in isolation. The combined effect of the two interventions is unknown. The primary aim of the current study then is to examine the combined effect of a HiRIT and bone medication intake compared to the independent effects of HiRIT or medication alone on change in total hip bone mineral density (BMD).

Methods: An 8-month RCT will be conducted, recruiting 160 postmenopausal women with low bone mass from the community who have either been on stable doses of antiresorptive bone medication for at least 12months (n=80) or who have elected not to take bone medications (n=80). Participants will be block randomised, stratified by medication intake, to 8 months of twice-weekly 30 min supervised sessions of either HiRIT or a very low intensity exercise program known to be ineffective for bone (control). Outcome measures include bone density (DXA), bone geometry and quality (pQCT, quantitative ultrasound), physical performance (i.e. timed up-and-go, five times sit-to-stand, functional reach, vertical jump), posture (i.e. kyphosis measures) and quality of life (SF-36). Adverse events and compliance will be recorded. Repeated measure ANCOVA will be conducted to determine intervention effects on outcome measures, controlling for initial values and intervention compliance.

Results: The study is not yet underway

Discussion: NA
76. Safety and efficacy of intravenous immunoglobulin G (Intragam®) infusions for children with immune deficiency

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Background: Children with a diagnosis of a primary immunodeficiency diagnosis (PID) receive regular intravenous immunoglobulins (IVIg) to prevent infections. The first goal of this review was to report on the safety, tolerability and efficacy of Intragam® P (6%), an IVIg. The second goal was to identify a strategy for decreasing infusion times and thus length of stay.

Methods: A retrospective audit was done of children with PID receiving regular IVIg infusions at Gold Coast Health Service over a five-year period. Data was collected on their weight, regular IgG trough levels, any adverse events, acute serious bacterial infections (aSBIs), and length of stay.

Results: A total of 423 infusions were administered to 7 patients at the GCH and GCUH. The safety and tolerability of Intragam® P (6%) was comparable with the safety profile of other IVIgs reported in the literature. Five adverse events occurred, giving an adverse event rate of 1.2%. The average infusion time on Intragam® P (6%) was 130 mins with an average length of stay of 208 mins.

Discussion: Intragam® P (6%) proved to be a safe and well-tolerated IVIg in the treatment of children with PID. Escalation of intravenous rates of infusion could be utilised as a strategy for decreasing infusion times and length of stay.

77. Morphometric analysis of bone development from juveniles in isolated populations

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Background: Between 1964-1974, the International Biological Program investigated the influence of the environment on isolated population groups in Papua New Guinea. This research collected large amounts of data in the form of radiographs, and measurements of anthropological characteristics from various populations. Modern advances in computing and imaging technology have allowed precise measurements of this data, which can be correlated alongside each population’s specific, and restrictive, diet. This study aims to provide a reference range of bone growth characteristics from healthy juveniles, which can be used to determine if a child is developing at a normal rate.

Methods: Anthropometrical measurements and hand-wrist X-rays were taken of children aged 8-16 years. The 2-MTC (metacarpal) and 3-MTC length and width were measured using ImageJ software. Correlations between bone parameters and stature were analysed. Pearson’s correlation coefficient, or an ANOVA was applied to test for significance (P<0.05).

Results: Preliminary studies using females from all three regions found a relationship between stature and length of the 2-MTC and 3-MTC. Significant correlations were observed between stature and 2-MTC length and 3-MTC length. Correlations were also found between stature and 2-MTC width and 3-MTC width.

Discussion: The 2-MTC and 3-MTC demonstrated consistent growth throughout development and therefore have the capacity to be used as a reliable measure of stature. The strongest positive correlation was between stature and 2-MTC length (P<0.01), compared to the 2-MTC width, 3-MTC length or 3-MTC width. Therefore, clinicians seeking to examine a child’s growth rate through bone age assessment could most accurately use measurements from the length of the 2-MTC.

78. Health-related quality of life in patients with unruptured intracranial aneurysms treated with endovascular flow diversion therapy

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Background: Endovascular flow diversion therapy (EFDT) has emerged as an innovative treatment for unruptured intracranial aneurysms (UIA), demonstrating favourable clinical outcomes. PROMs integrate the use of assessment tools to allow patients to self-report their health-related quality of life (HRQOL) by reporting symptoms, side effects, satisfaction with treatment and treatment adherence. HRQOL is useful for determining how effective a treatment is and to assist with health care planning.

Methods: This pilot study uses mixed methods with a convergent parallel design. A convenience sample of 15 patients referred to the Interventional Neuroradiology service at Gold Coast University Hospital from 2017-2018 will be included. Participants complete standardised assessment tools to indicate the functional (Modified Rankin Scale – mRS), cognitive (Montreal Cognitive Assessment - MOCA) and psychosocial status (Hospital Anxiety and Depression Scale – HADS; EuroQol instrument - EQ-5D™; The Short Form Health Survey – SF-36) of their health. Semi-structured interviews will
Poster Abstracts

explore participants’ health values, perceptions and experiences.

**Results:** Descriptive statistics will summarise demographics and the results from the standardised scoring systems of each data collection tool. Changes pre and post intervention will be analysed using paired t tests, p <0.05 will be considered statistically significant. Text data obtained from the interview transcripts will be analysed using conventional content analysis. Triangulation will be used to integrate all data sources in gain a holistic understanding of findings. Preliminary results will be presented.

**Discussion:** Outcomes will inform clinicians of the impact of EDFT and inform an evidence-based intervention for patients with UIAs.